



**CEMENT BOND LOG
RADIi SECTOR TOOL
FINAL PRINT**

| | | | |
|------------------------|----------------------------------------------------------|----------------|----------------------------------------|
| Company | Ward Petroleum Corp. | Company | Ward Petroleum Corp. |
| Well | Sharp 24-3-11 HC | Well | Sharp 24-3-11 HC |
| Field | Wattenberg | Field | Wattenberg |
| County | Adams | County | Adams |
| State | Colorado | State | Colorado |
| Location: | SEC 24 TWP 1S RGE 67W SHL: 250' FSL & 190 FWL SWSW | API #: | 0500109801000 |
| Permanent Datum | G.L. | Elevation | 5019' |
| Log Measured From | RKB 22' | Other Services | K.B. 5041' D.F. 5040' G.L. 5019' |
| Drilling Measured From | RIG KELLY BUSHING | | |

| | |
|------------------------|----------------|
| Date | 08-22-2014 |
| Run Number | ONE |
| Depth Driller | 8258' |
| Bottom Logged Interval | |
| Top Log Interval | SURFACE |
| Open Hole Size | 10.25" |
| Type Fluid | H2O |
| Density / Viscosity | |
| Max. Recorded Temp. | |
| Estimated Cement Top | |
| Time Well Ready | 8:00AM |
| Time Logger on Bottom | 11:45 AM |
| Equipment Number | D-7 RCE01 |
| Location | MEAD |
| Recorded By | D. Seip |
| Witnessed By | Mr. Roger Pape |

| | Borehole Record | | Tubing Record | | | | |
|-------------------|-----------------|------|---------------|------|--------|------|----|
| | Bit | From | To | Size | Weight | From | To |
| Casing Record | | | | | | | |
| Surface String | 9-5/8" | | | | | | |
| Prot. String | 7" | | | | | | |
| Production String | 4-1/2" | | | | | | |
| Liner | | | | | | | |

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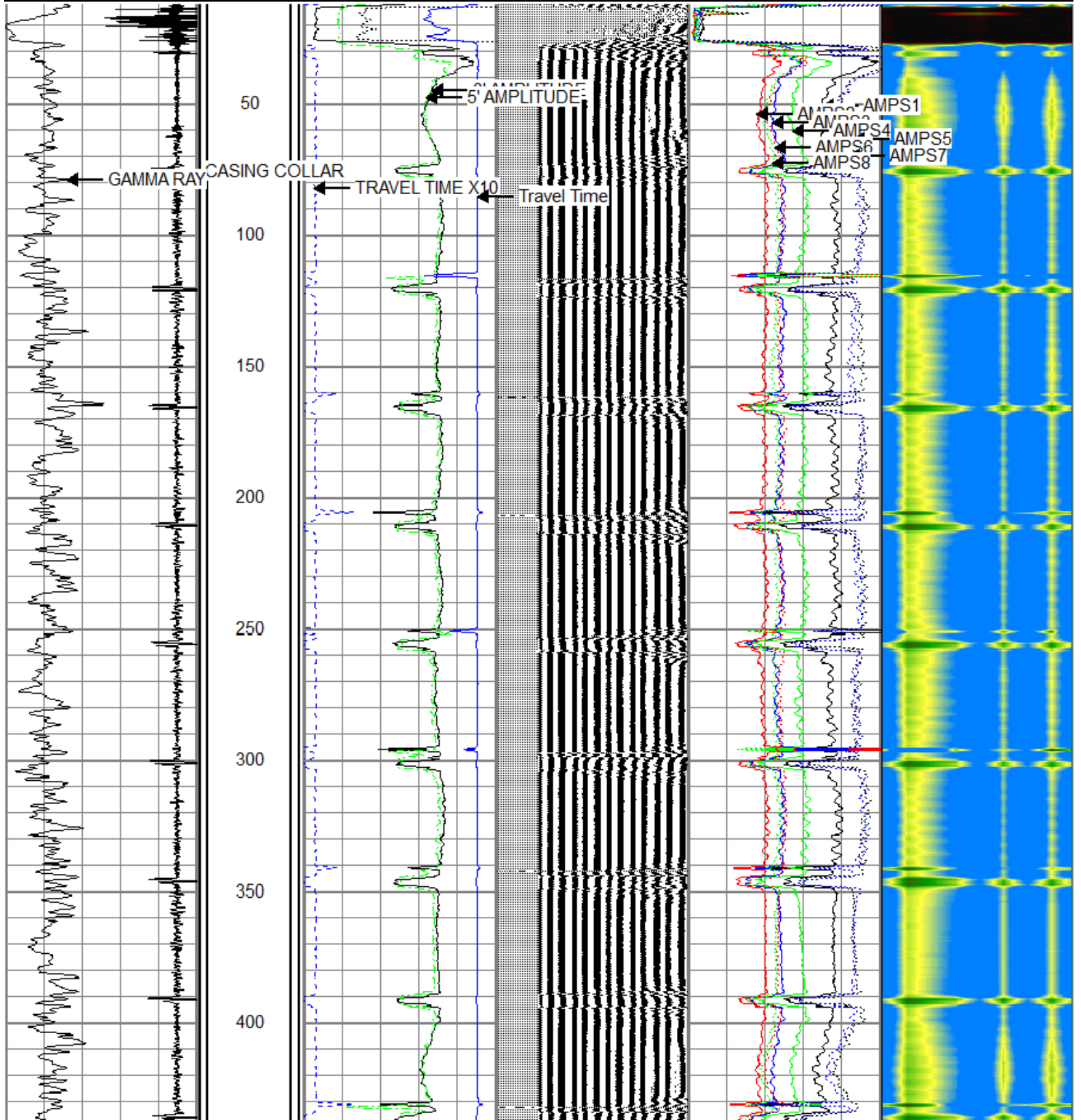
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

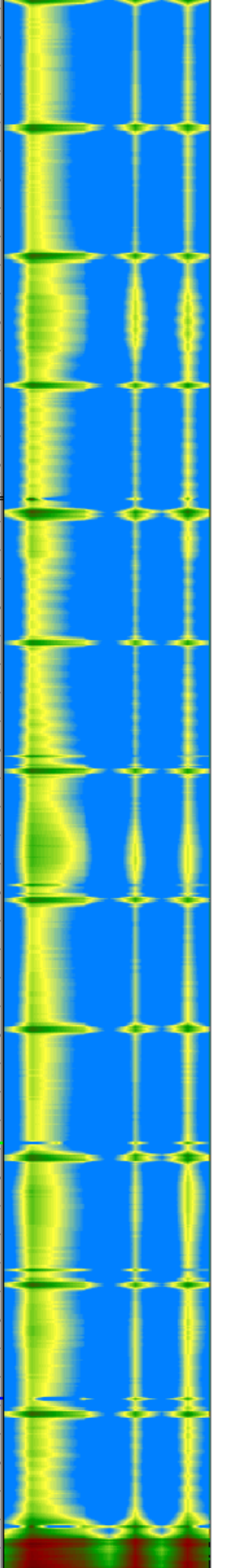
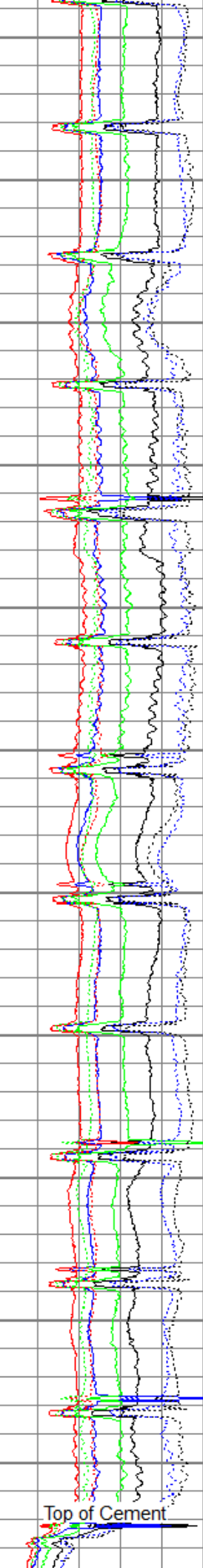
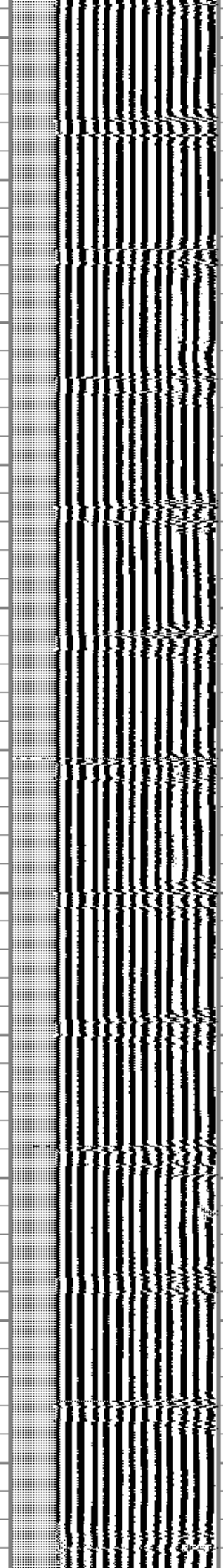
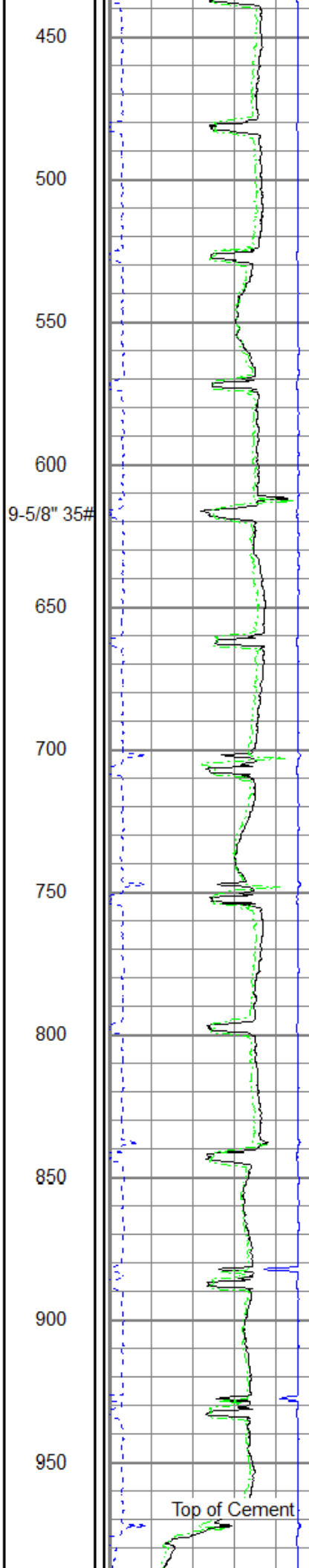
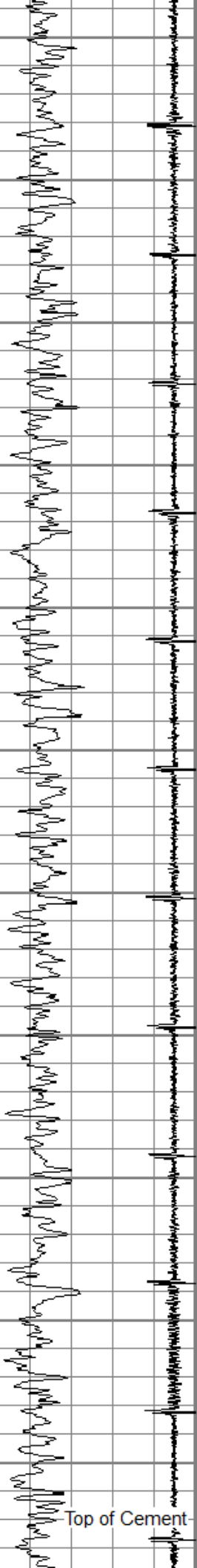
LOG RAN WITH 1900 PSI

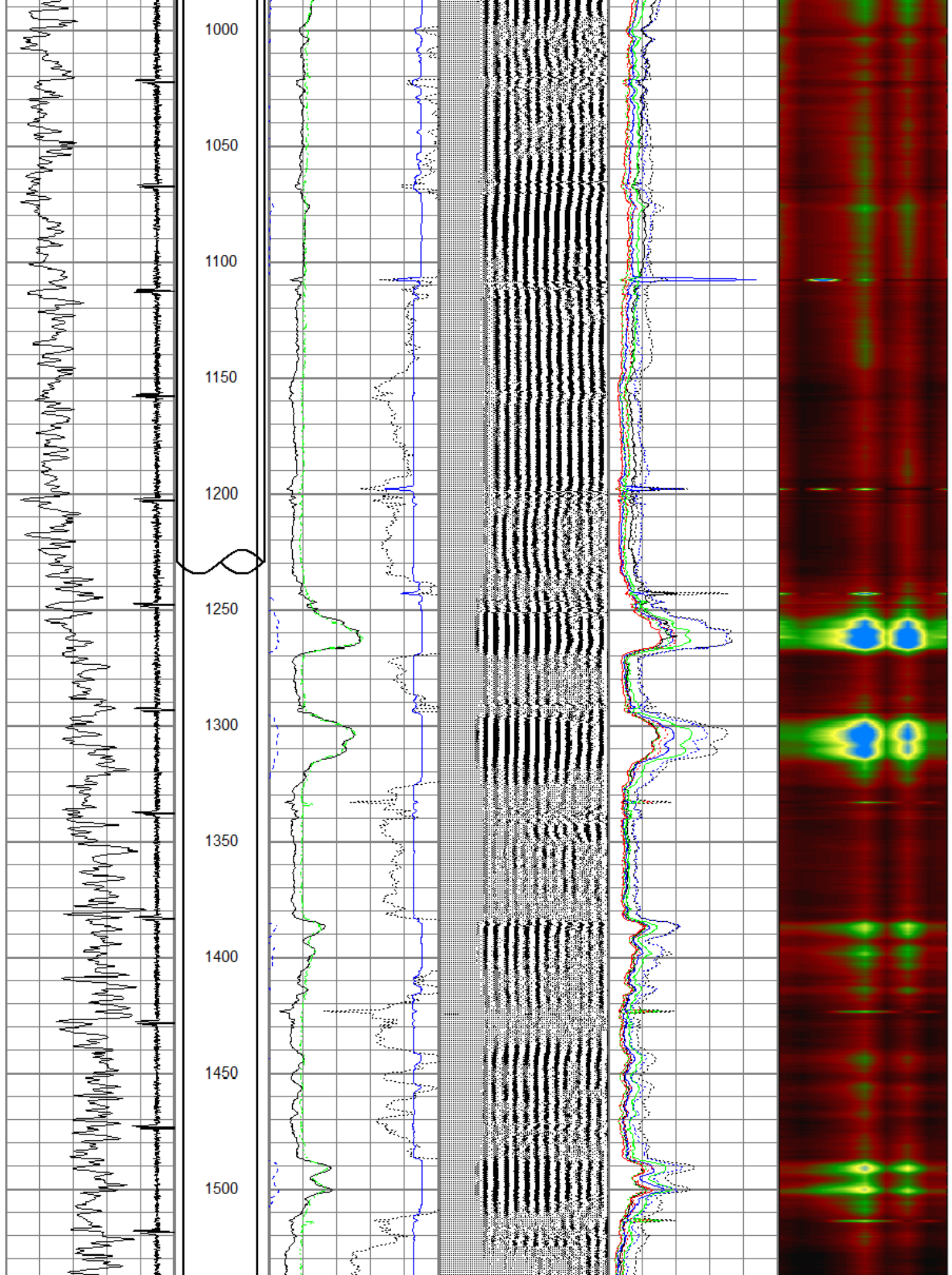
| Sensor | Offset (ft) | Schematic | Description | Length (ft) | O.D. (in) | Weight (lb) |
|--------|-------------|-----------|-------------|-------------|-----------|-------------|
| | | | | | | |

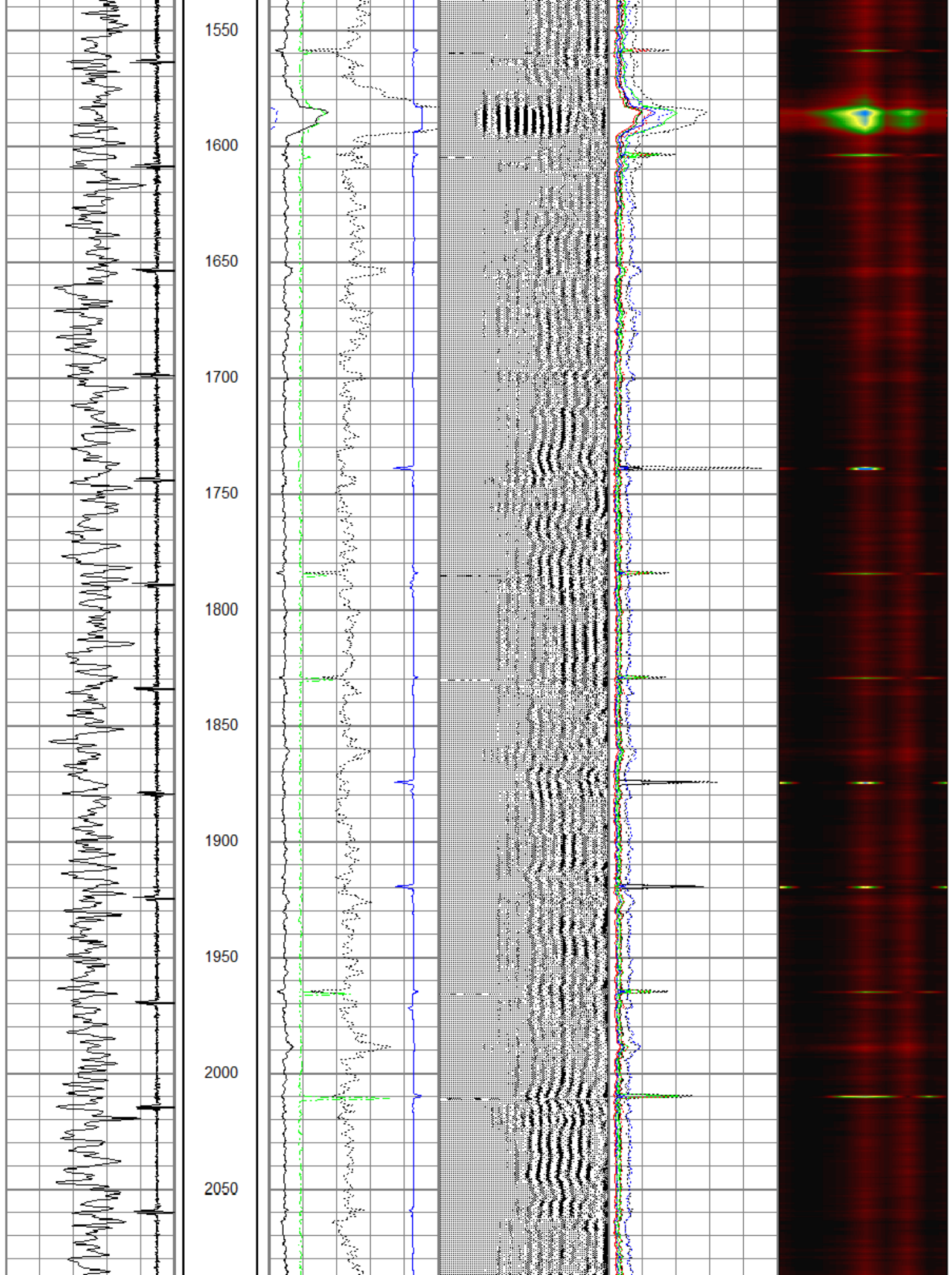
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|--------------------|--------|-----------------|---|------|-----|------|---|-------|----|---|------------|----|
| GAMMA RAY | | 3' AMPLITUDE | | 200 | VDL | 1200 | 0 | AMPS1 | 80 | 1 | Cement Map | 8 |
| 0 | (GAPI) | 200 | 0 | (mV) | 80 | | 0 | AMPS2 | 80 | 4 | | 45 |
| -9 CASING COLLAR 1 | | AMP X5 (mV) | | 16 | | | 0 | AMPS3 | 80 | | | |
| | | TRAVEL TIME X10 | | | | | 0 | AMPS4 | 80 | | | |
| | | 300 (usec) | | 200 | | | 0 | AMPS5 | 80 | | | |
| | | 5' AMPLITUDE | | | | | 0 | AMPS6 | 80 | | | |
| | | 0 (mV) | | 80 | | | 0 | AMPS7 | 80 | | | |
| | | Travel Time | | | | | 0 | AMPS8 | 80 | | | |
| | | 1200 (usec) | | 200 | | | | | | | | |

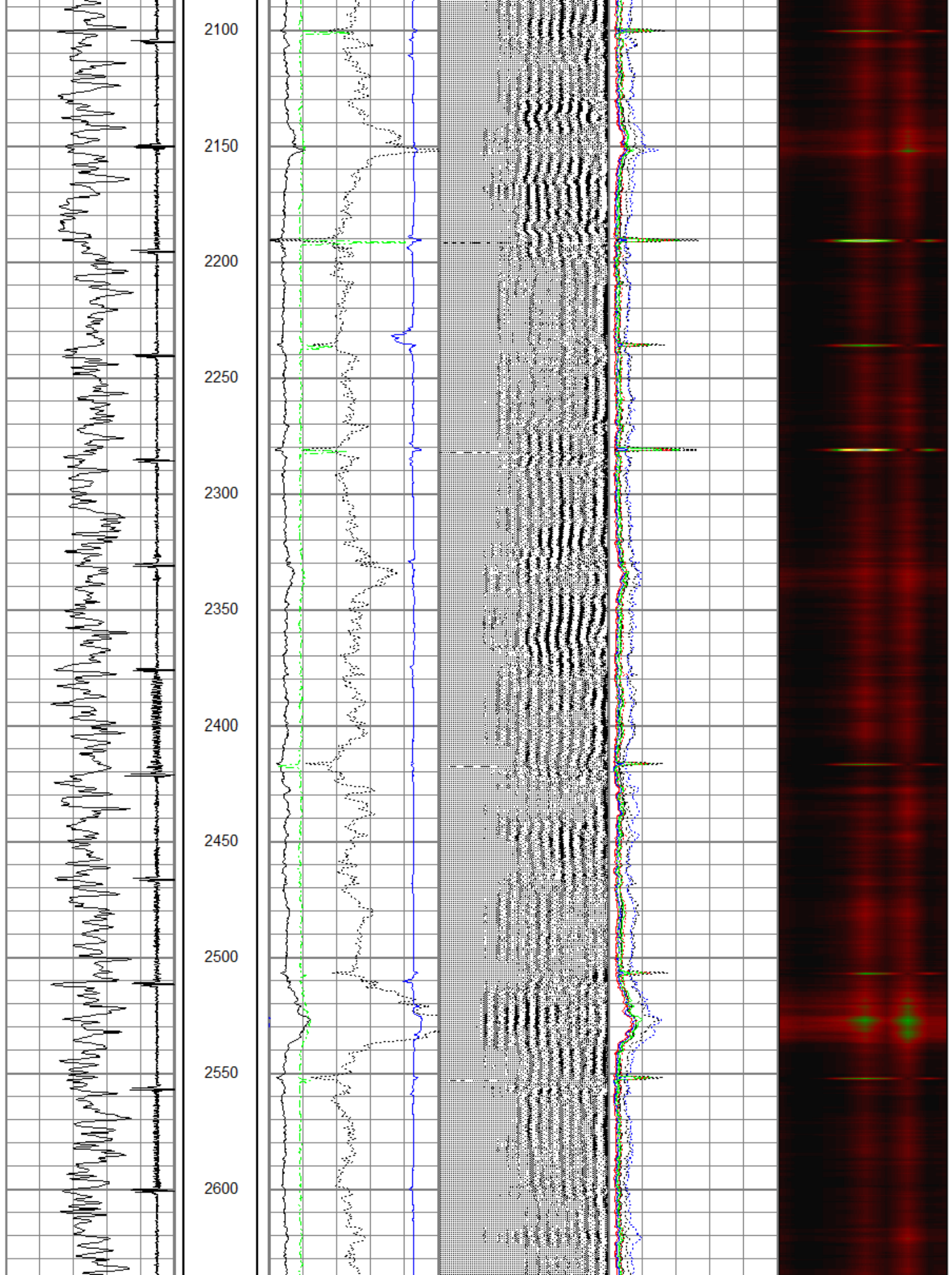


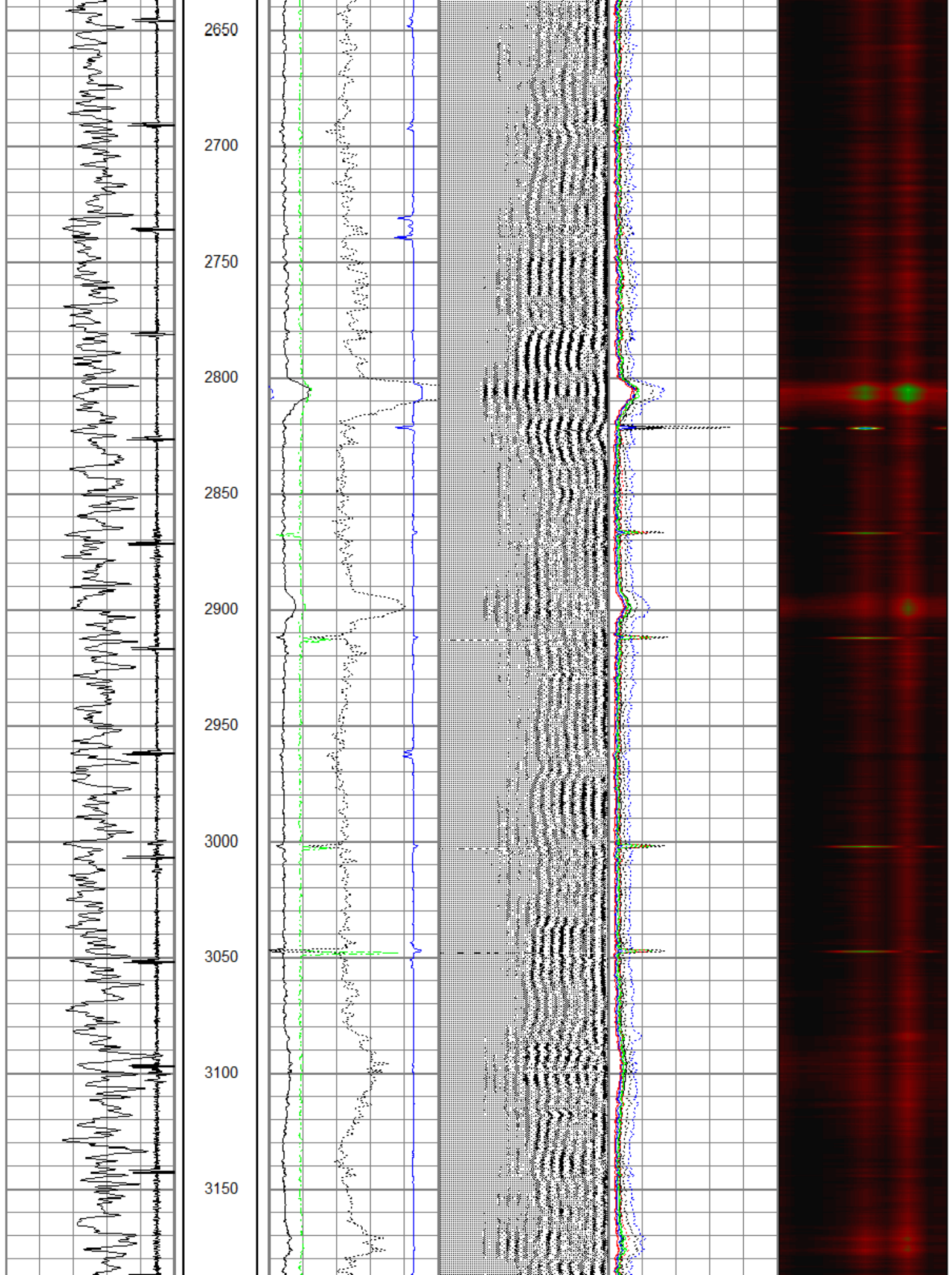
450
500
550
600
9-5/8" 35#
650
700
750
800
850
900
950



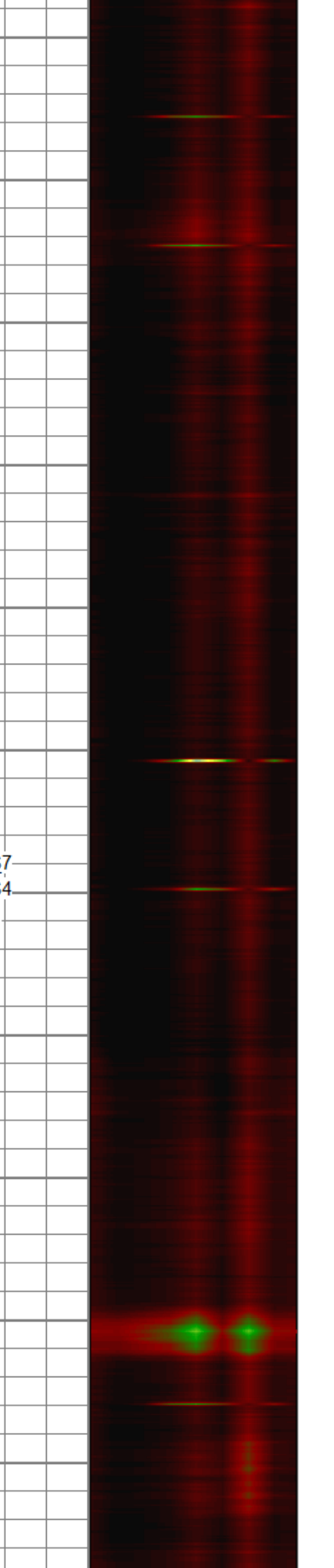
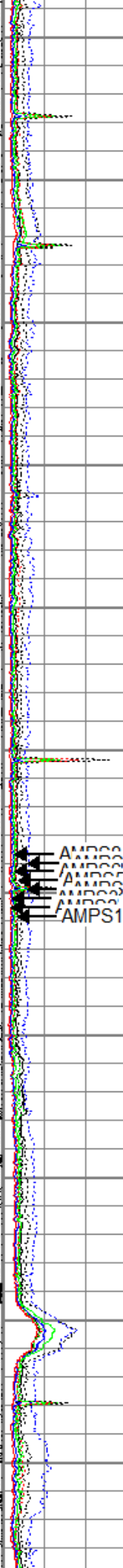
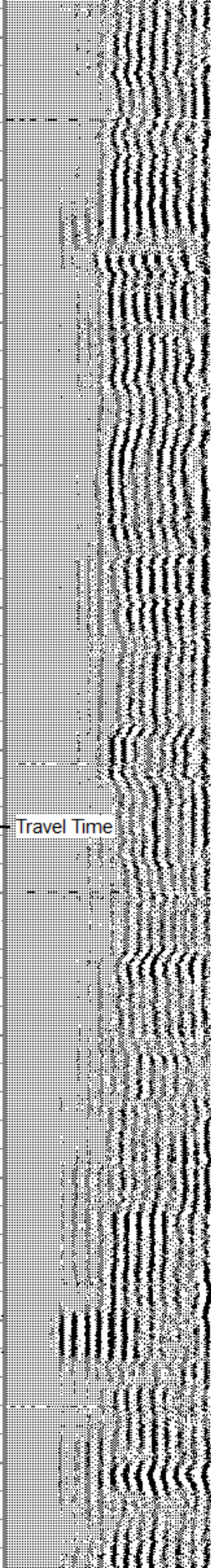
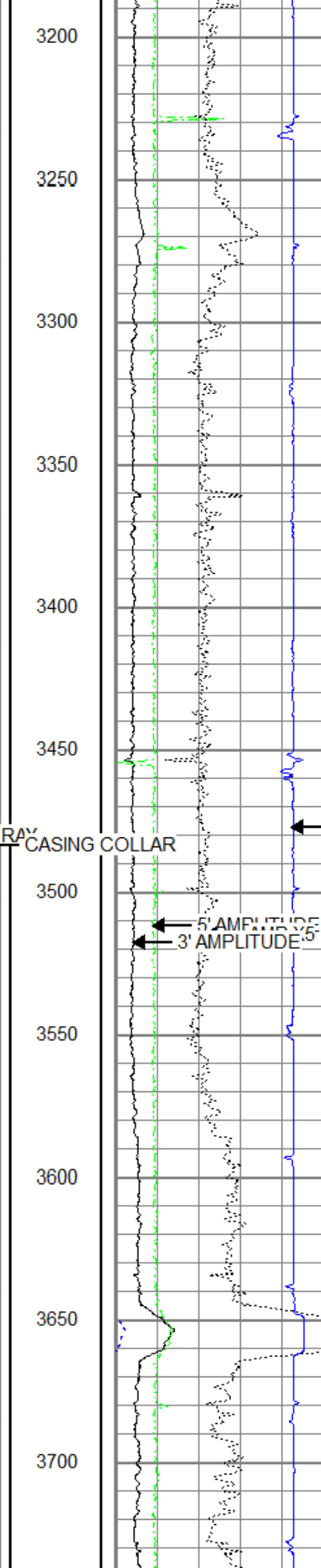
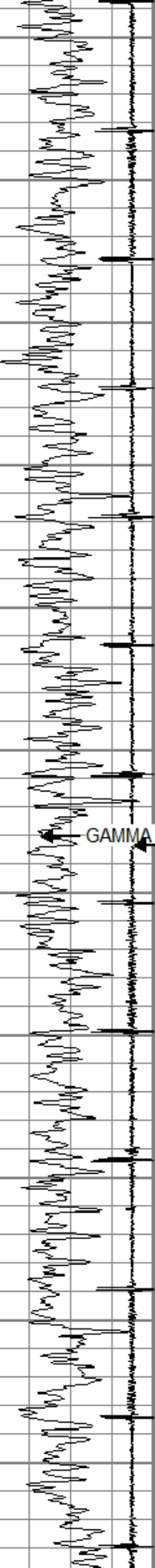








3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700

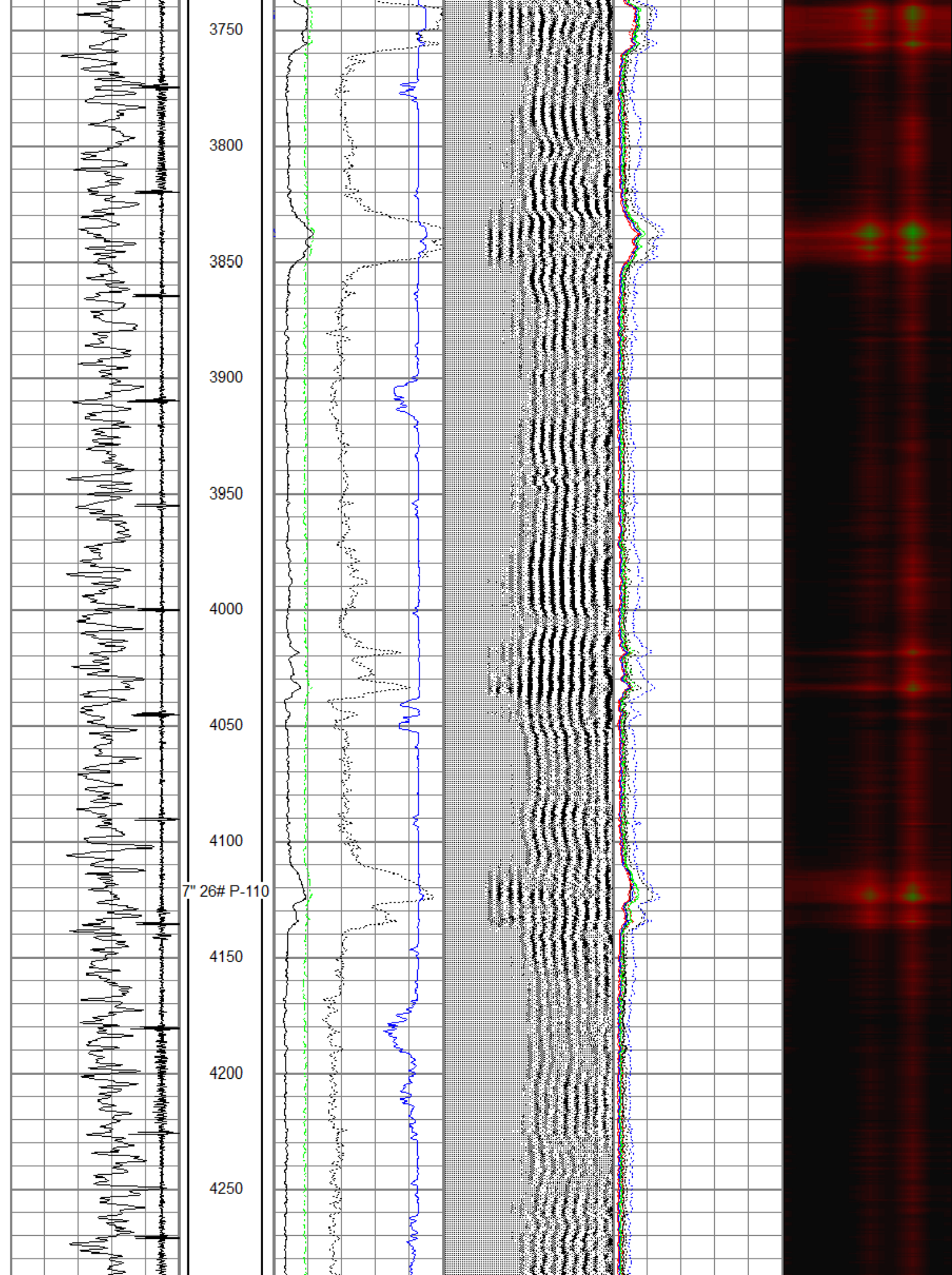


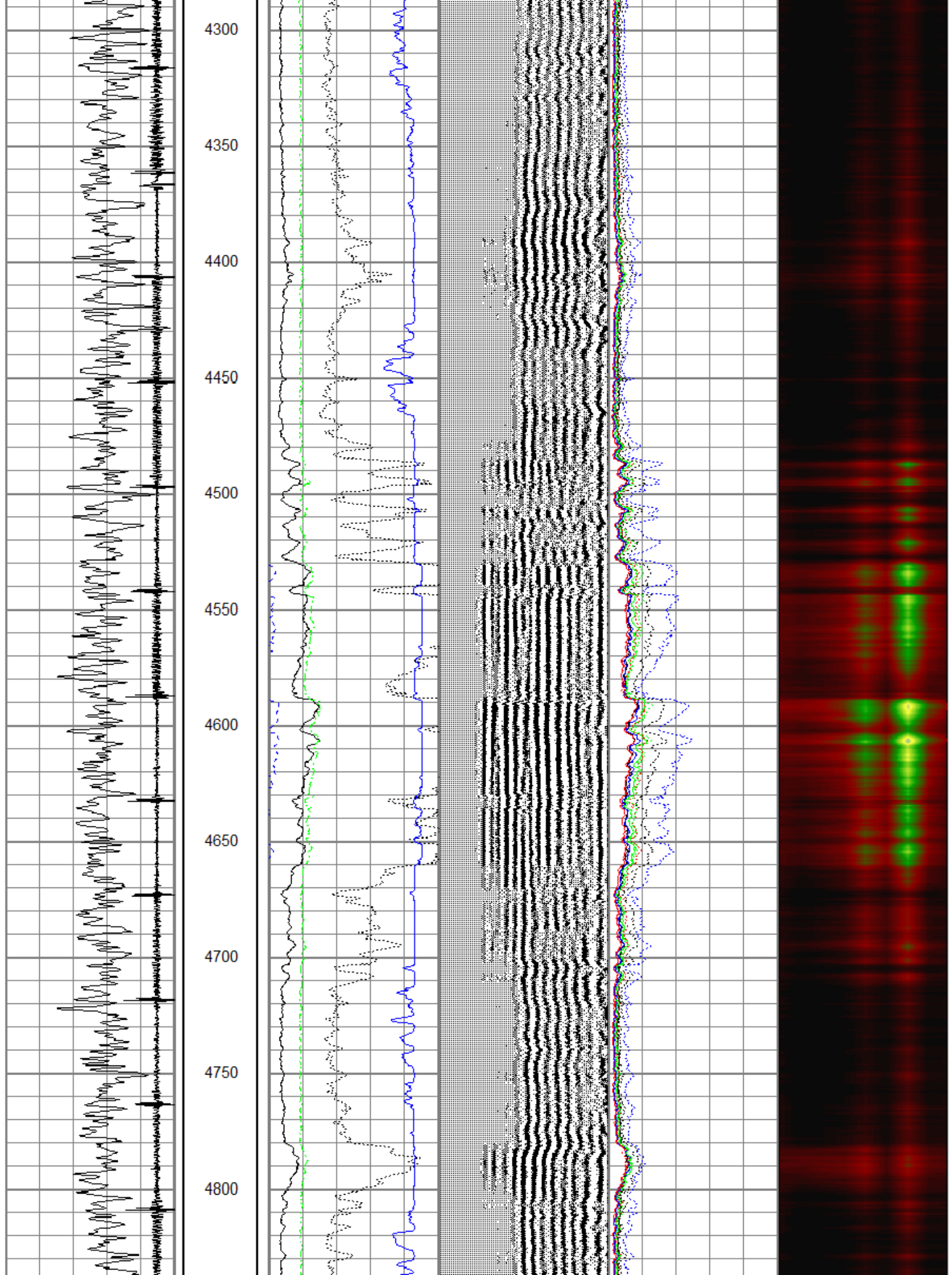
GAMMA RAY
CASING COLLAR

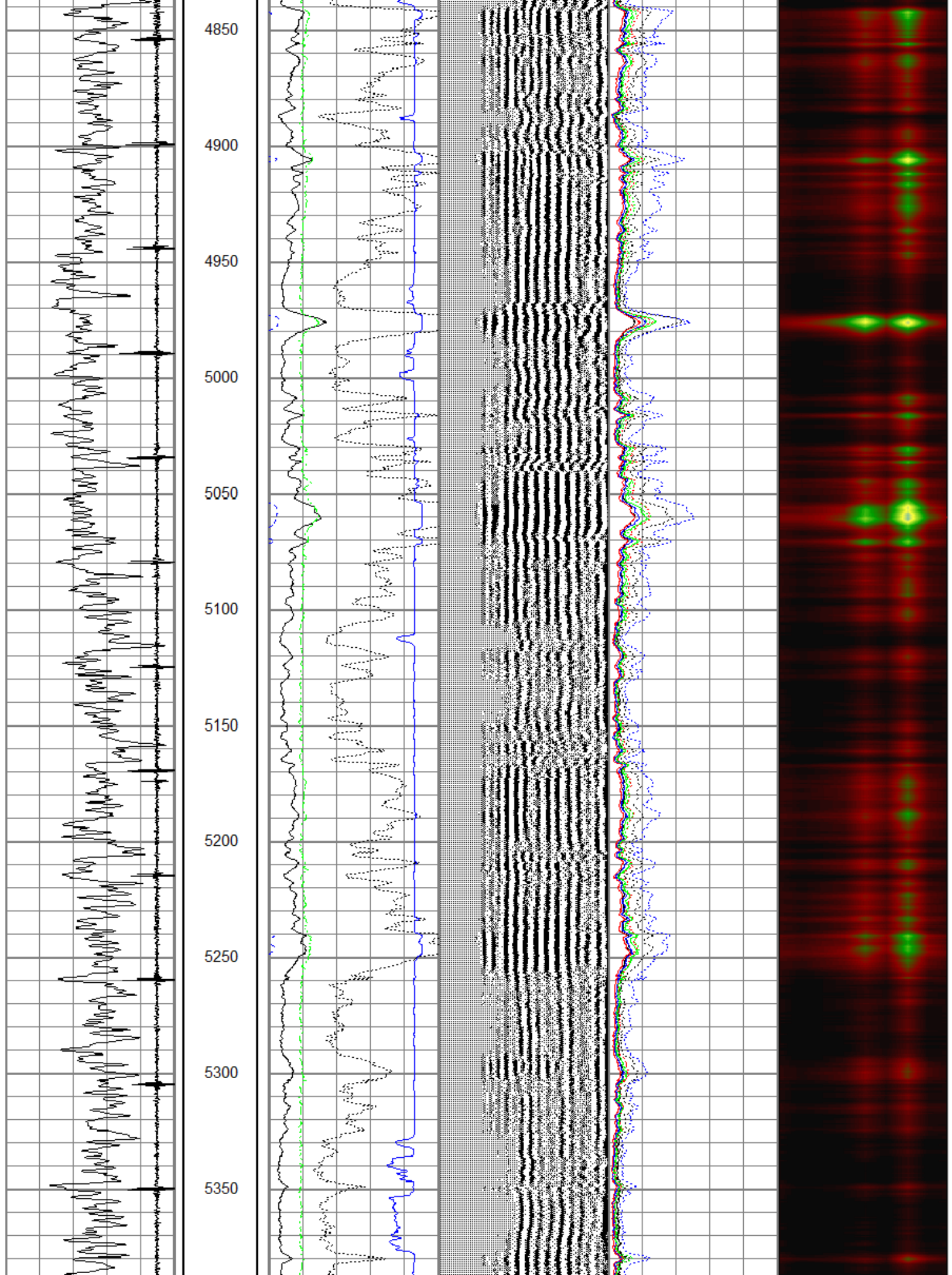
Travel Time

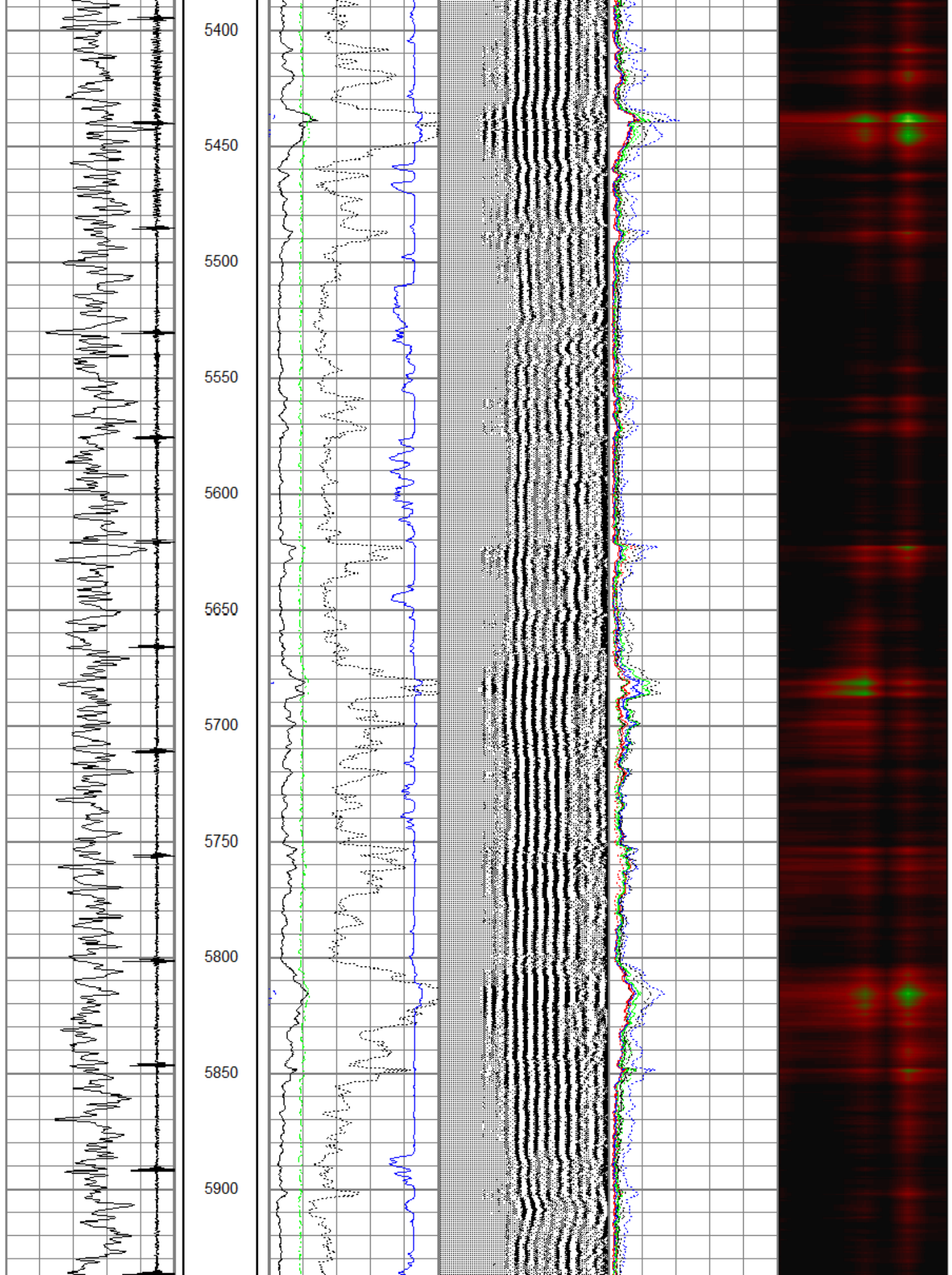
5' AMPLITUDE
3' AMPLITUDE 5'

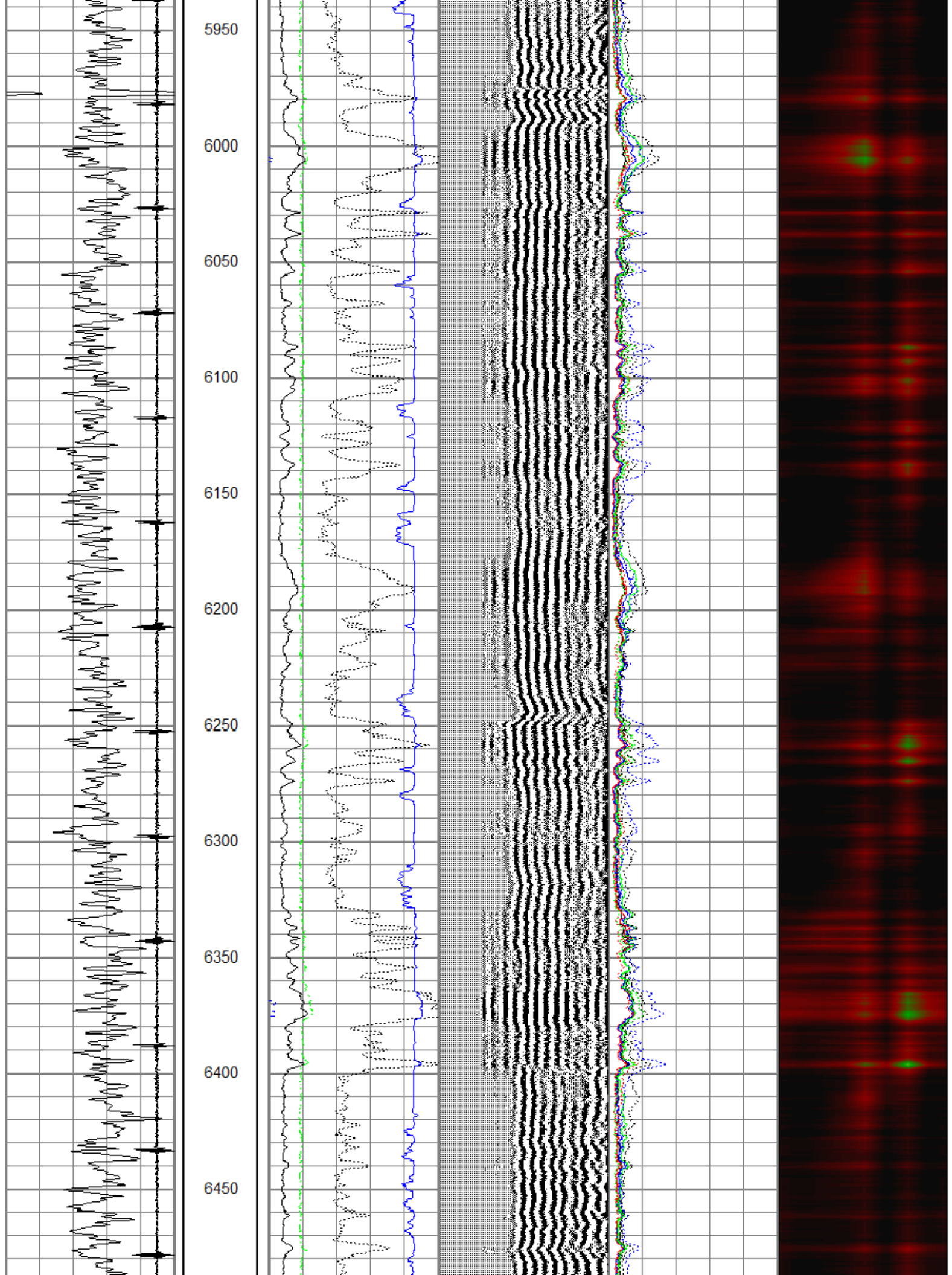
AMPS2
AMPS7
AMPS6
AMPS4
AMPS3
AMPS1

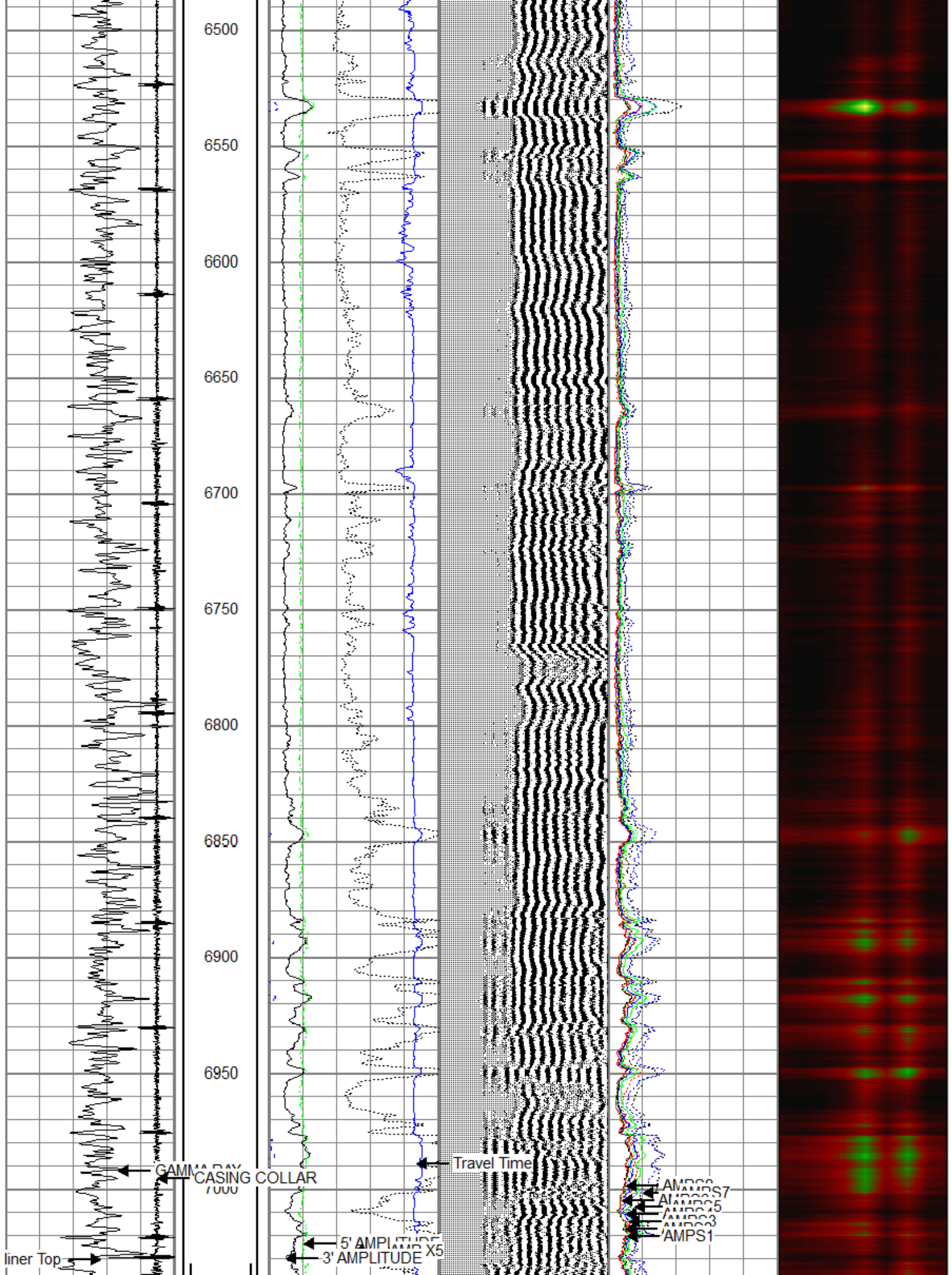


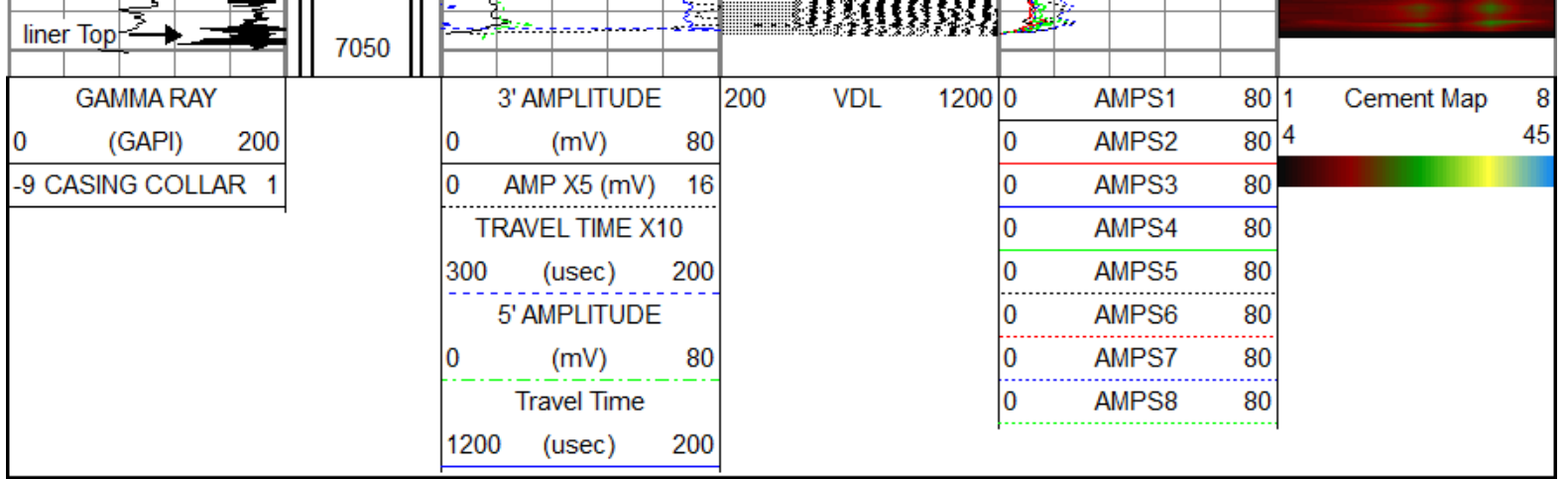




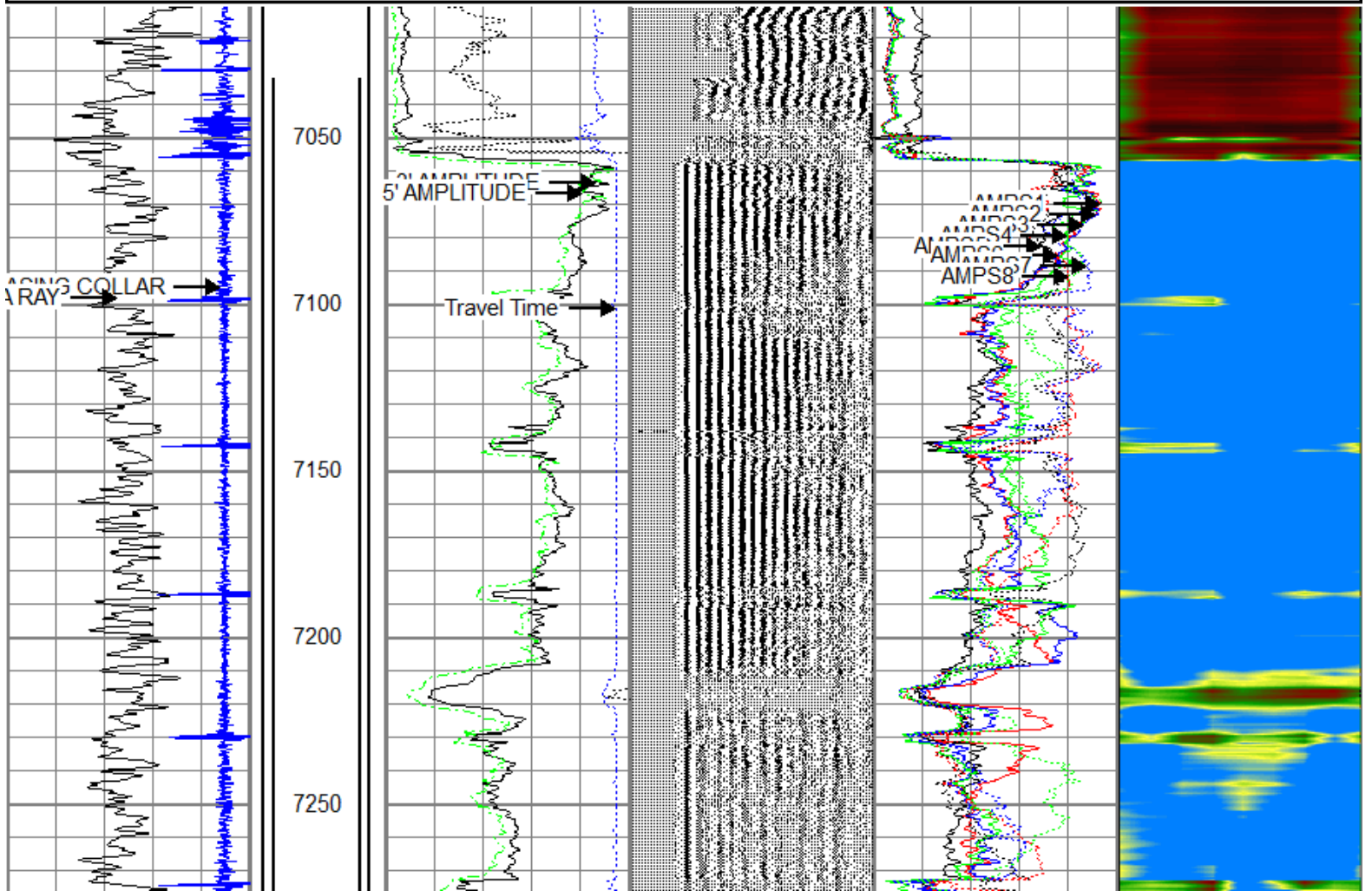
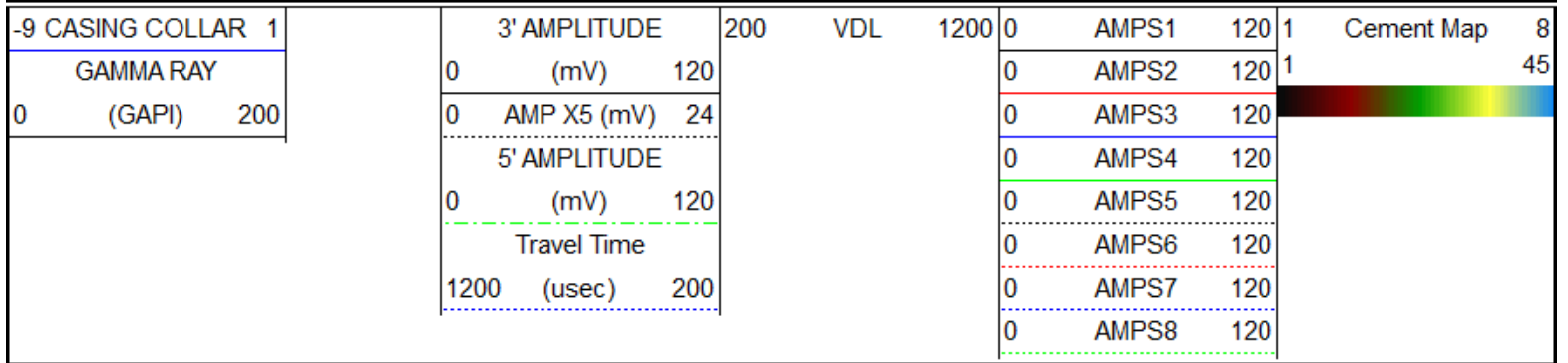


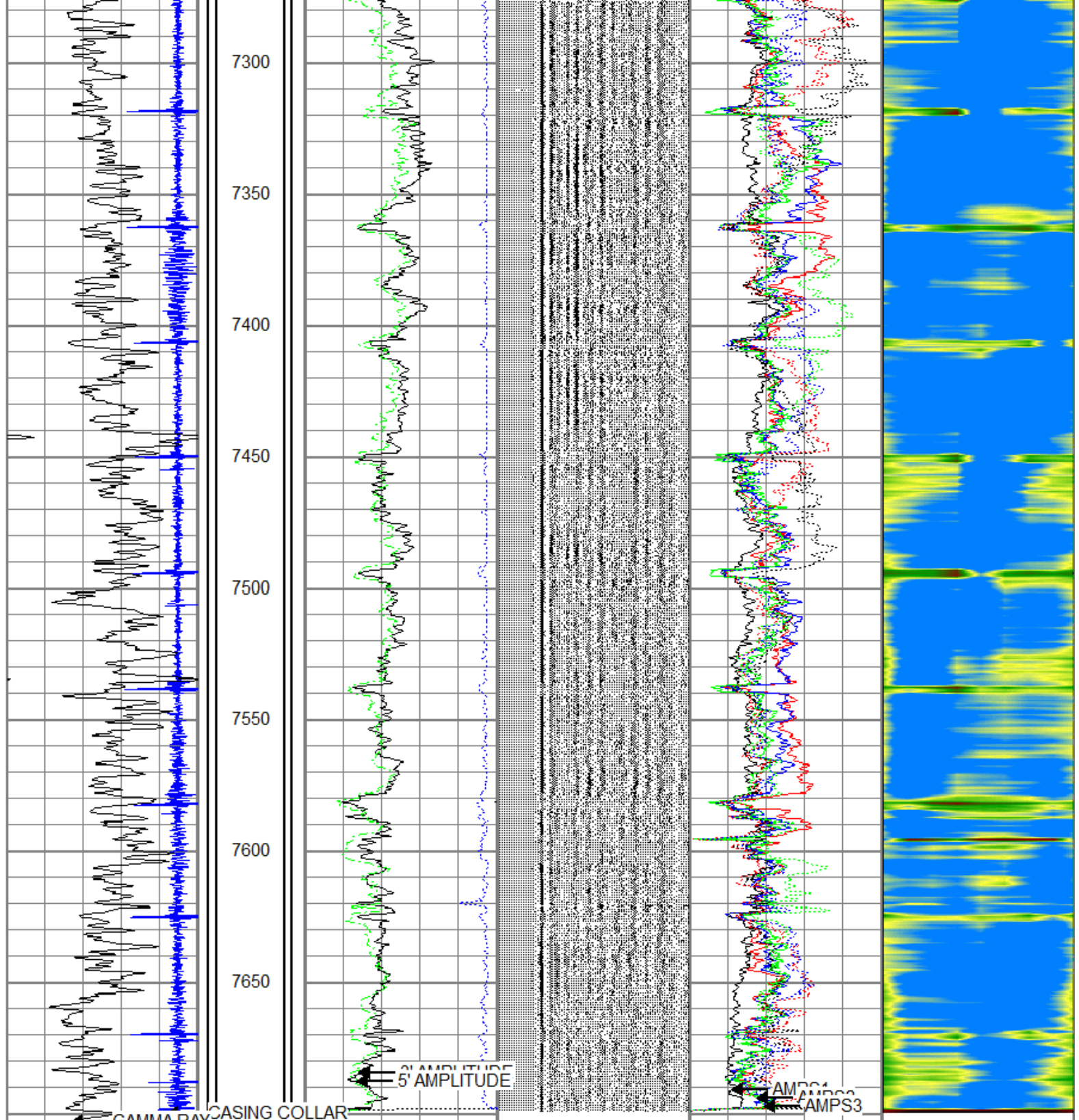






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 Dataset Creation Fri Aug 22 13:17:23 2014
 Charted by Depth in Feet scaled 1:600

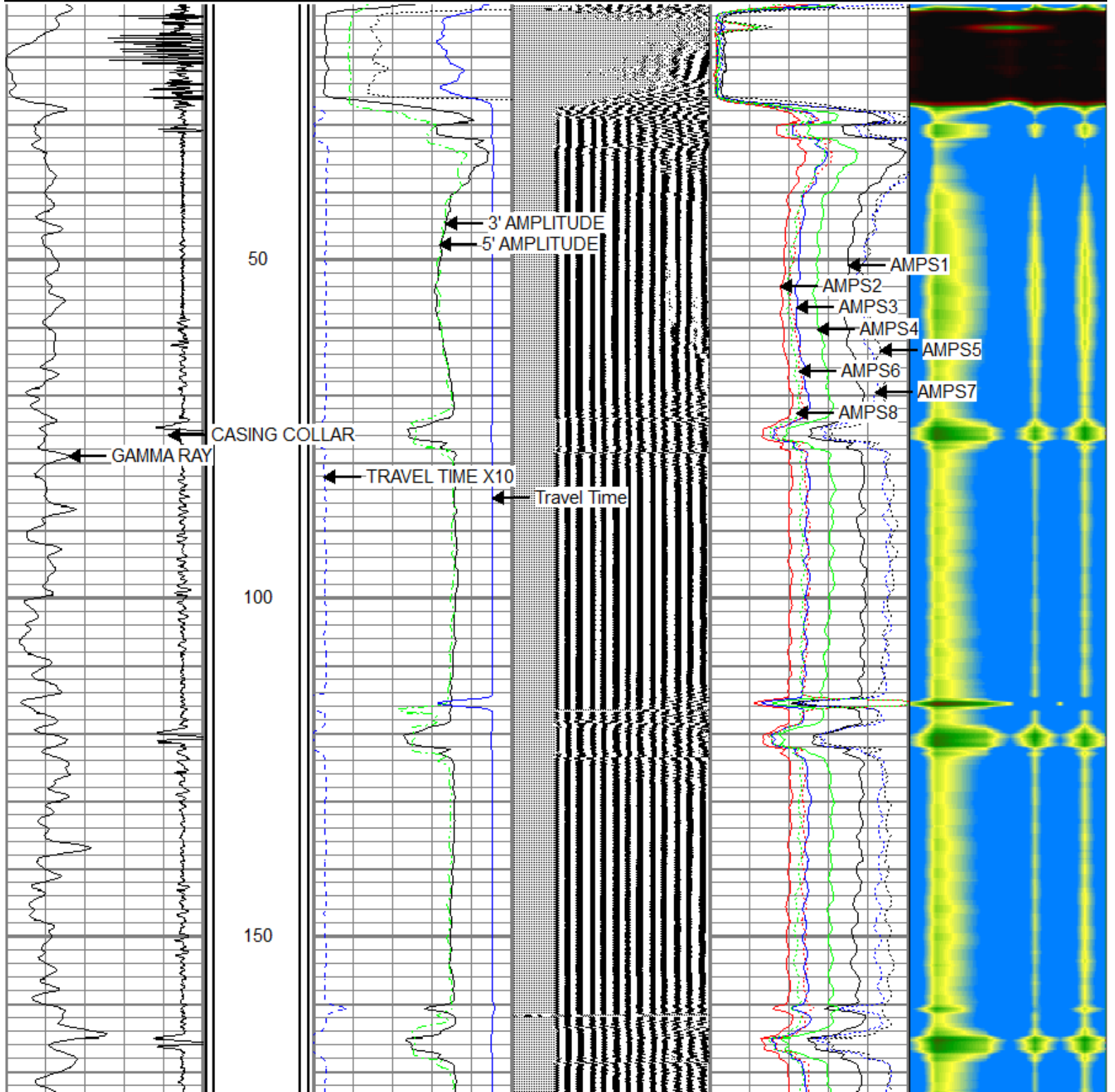


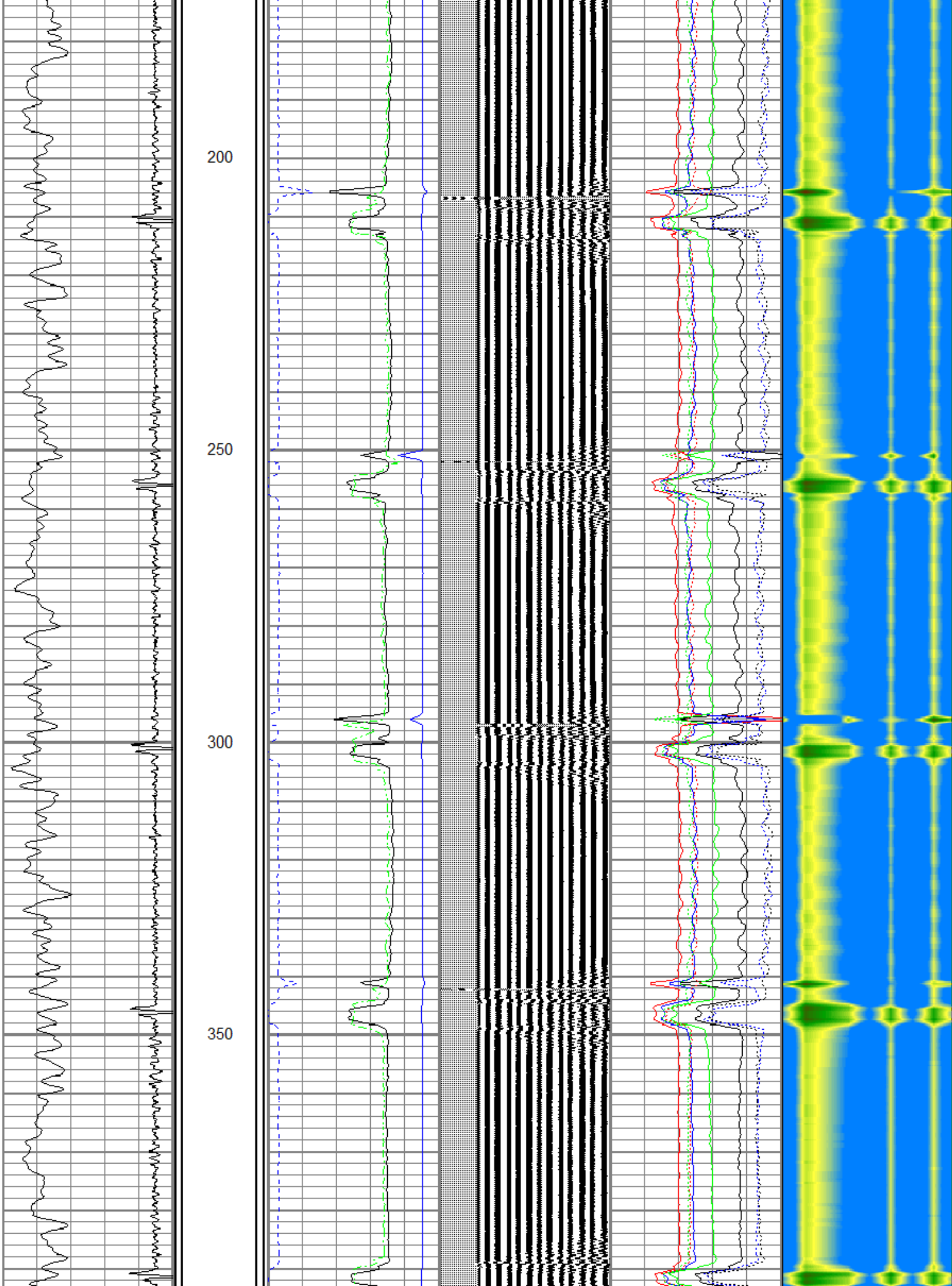


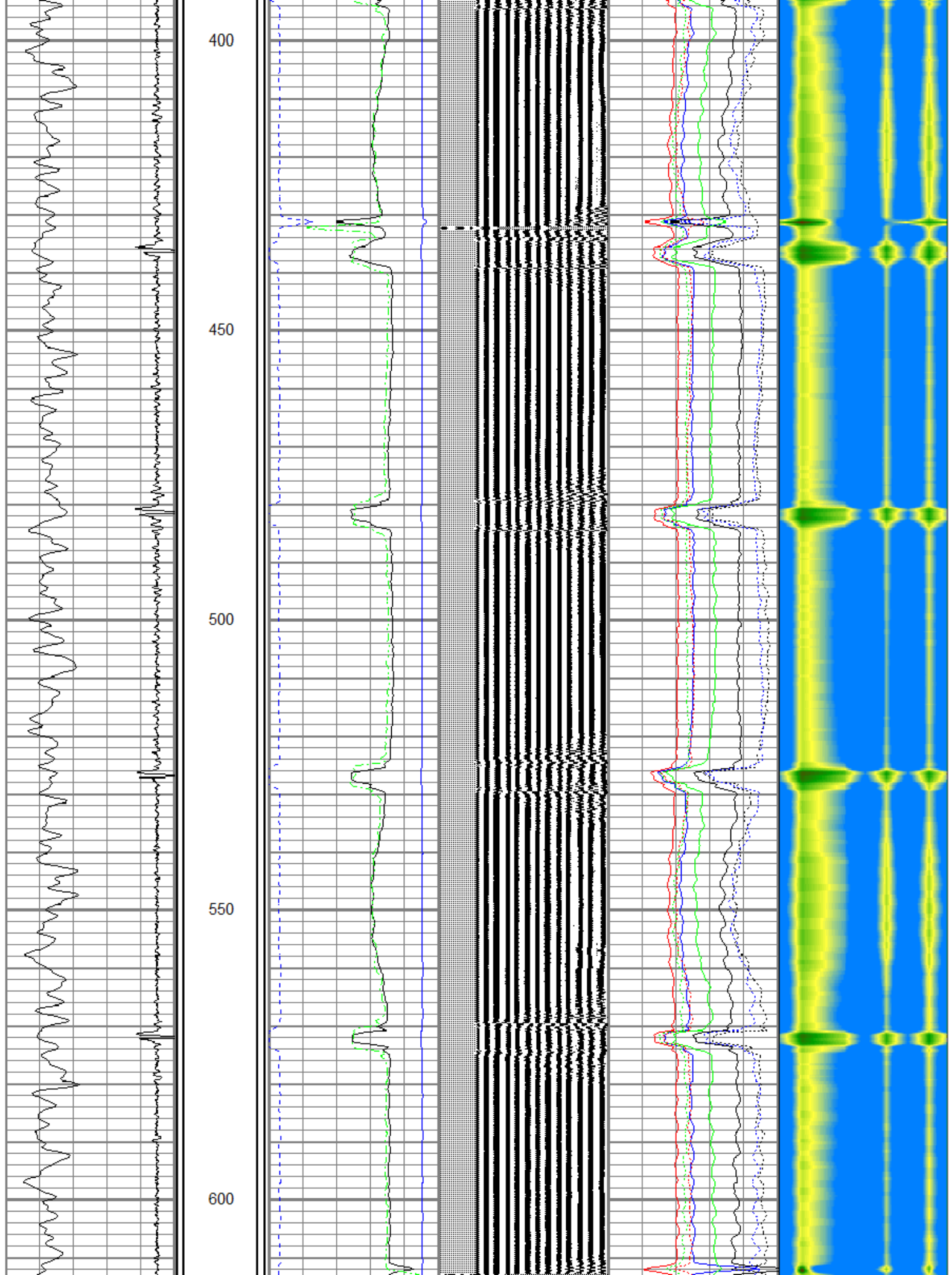
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|------------------|-----|---------------|-----|-----|------|---|-------|-----|---|------------|----|
| -9 CASING COLLAR | 1 | 3' AMPLITUDE | 200 | VDL | 1200 | 0 | AMPS1 | 120 | 1 | Cement Map | 8 |
| GAMMA RAY | | 0 (mV) | 120 | | | 0 | AMPS2 | 120 | 1 | | 45 |
| 0 (GAPI) | 200 | 0 AMP X5 (mV) | 24 | | | 0 | AMPS3 | 120 | | | |
| | | 5' AMPLITUDE | | | | 0 | AMPS4 | 120 | | | |
| | | 0 (mV) | 120 | | | 0 | AMPS5 | 120 | | | |
| | | Travel Time | | | | 0 | AMPS6 | 120 | | | |
| | | 1200 (usec) | 200 | | | 0 | AMPS7 | 120 | | | |
| | | | | | | 0 | AMPS8 | 120 | | | |

Database File wardsharpe2431.mtc.db
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 Presentation Format rst7inplo
 Dataset Creation Fri Aug 22 13:09:15 2014
 Charted by Depth in Feet scaled 1:240

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|--------------------|--------|-----------------|---|------|-----|------|---|-------|----|---|------------|----|
| GAMMA RAY | | 3' AMPLITUDE | | 200 | VDL | 1200 | 0 | AMPS1 | 80 | 1 | Cement Map | 8 |
| 0 | (GAPI) | 200 | 0 | (mV) | 80 | | 0 | AMPS2 | 80 | 4 | | 45 |
| -9 CASING COLLAR 1 | | AMP X5 (mV) | | 16 | | | 0 | AMPS3 | 80 | | | |
| | | TRAVEL TIME X10 | | | | | 0 | AMPS4 | 80 | | | |
| | | 300 (usec) | | 200 | | | 0 | AMPS5 | 80 | | | |
| | | 5' AMPLITUDE | | | | | 0 | AMPS6 | 80 | | | |
| | | 0 (mV) | | 80 | | | 0 | AMPS7 | 80 | | | |
| | | Travel Time | | | | | 0 | AMPS8 | 80 | | | |
| | | 1200 (usec) | | 200 | | | | | | | | |







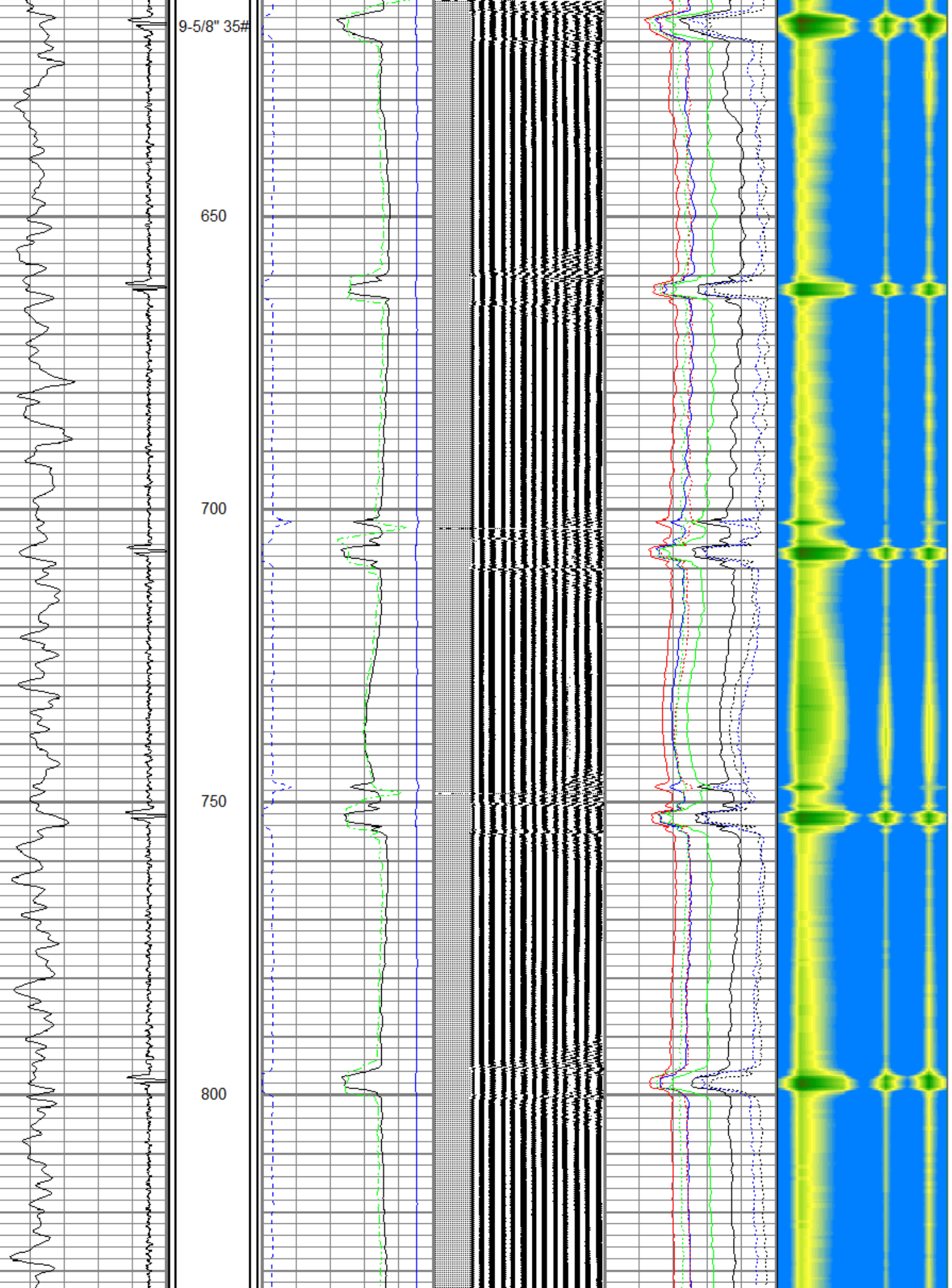
9-5/8" 35#

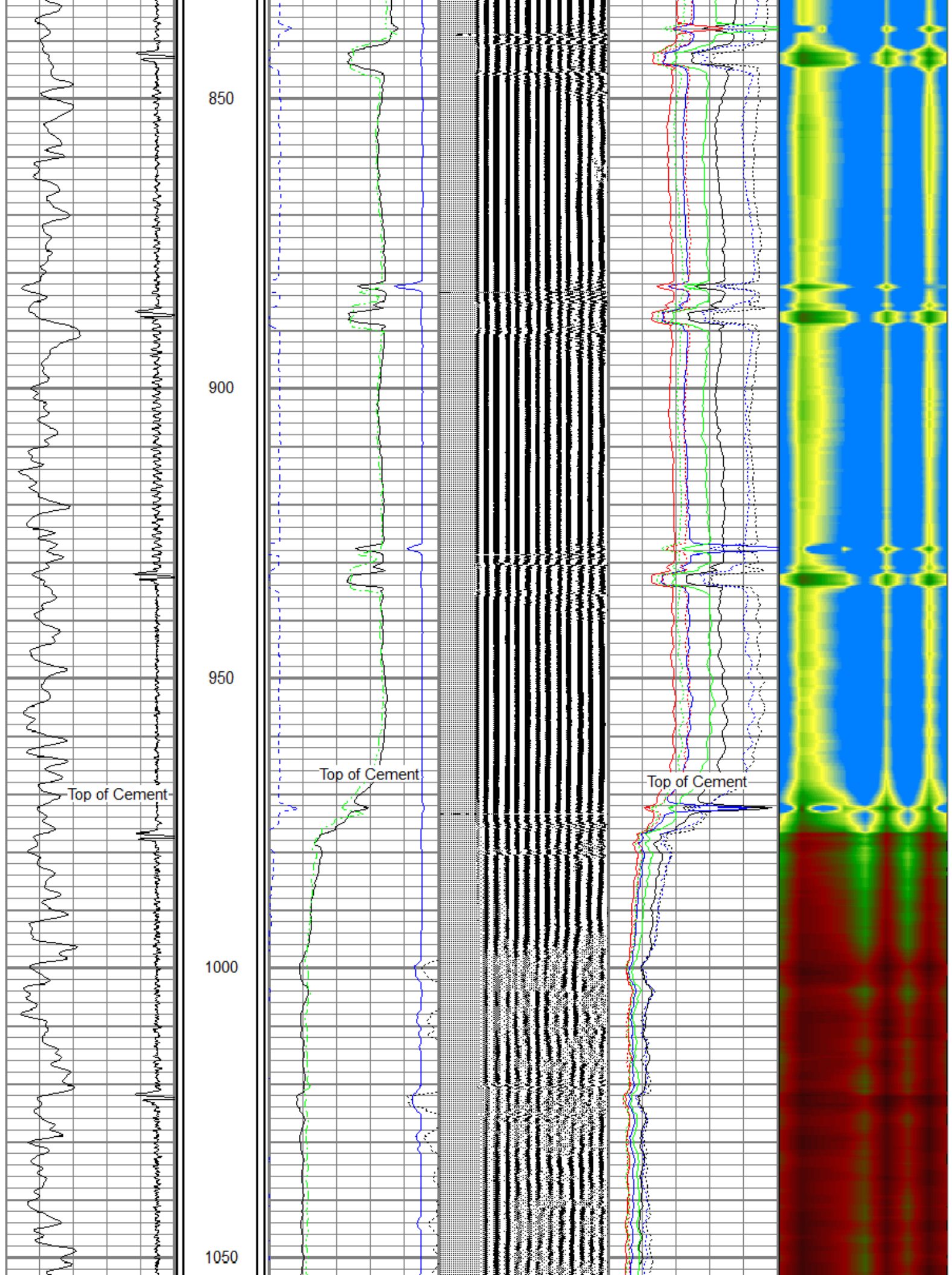
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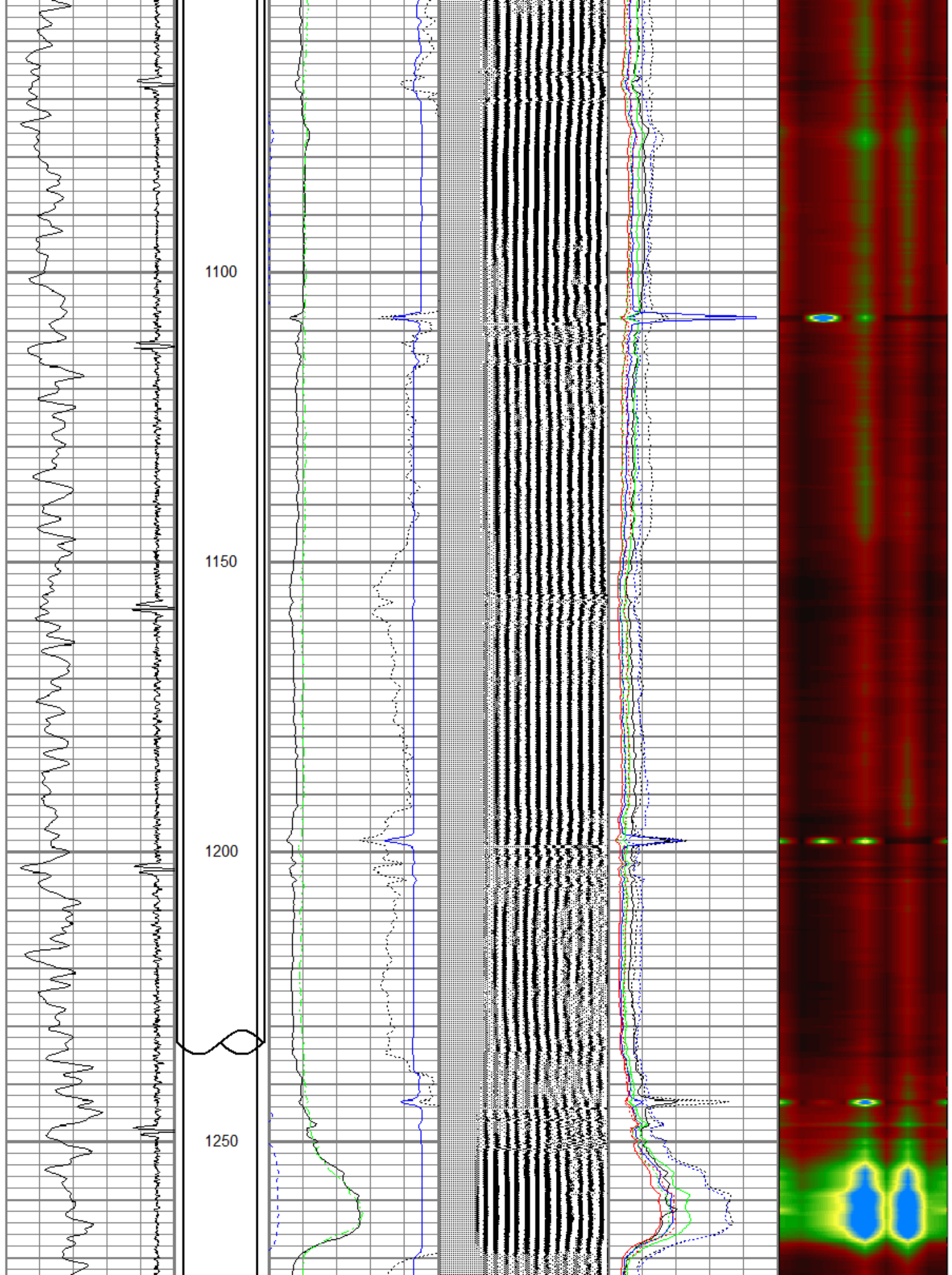
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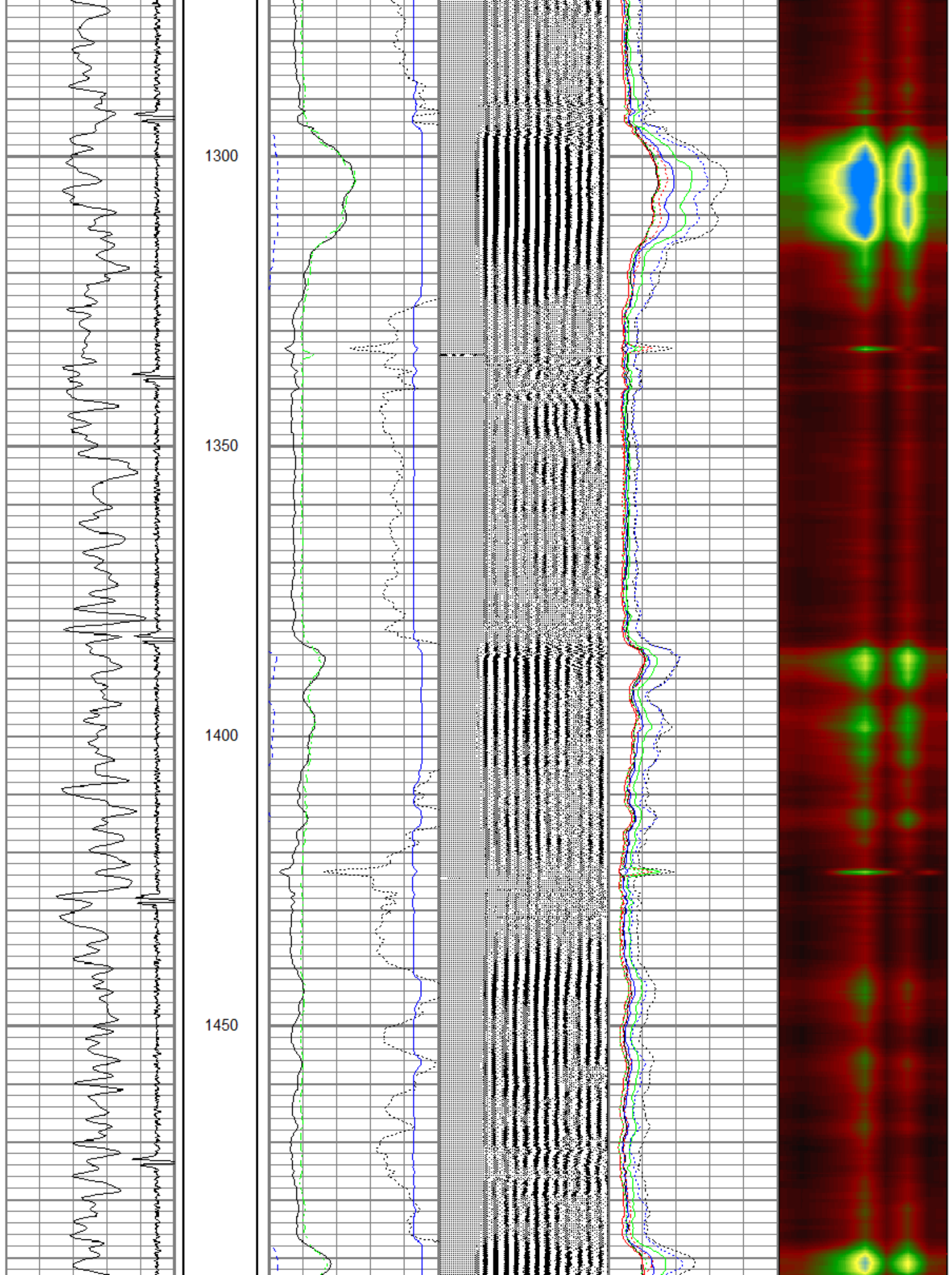
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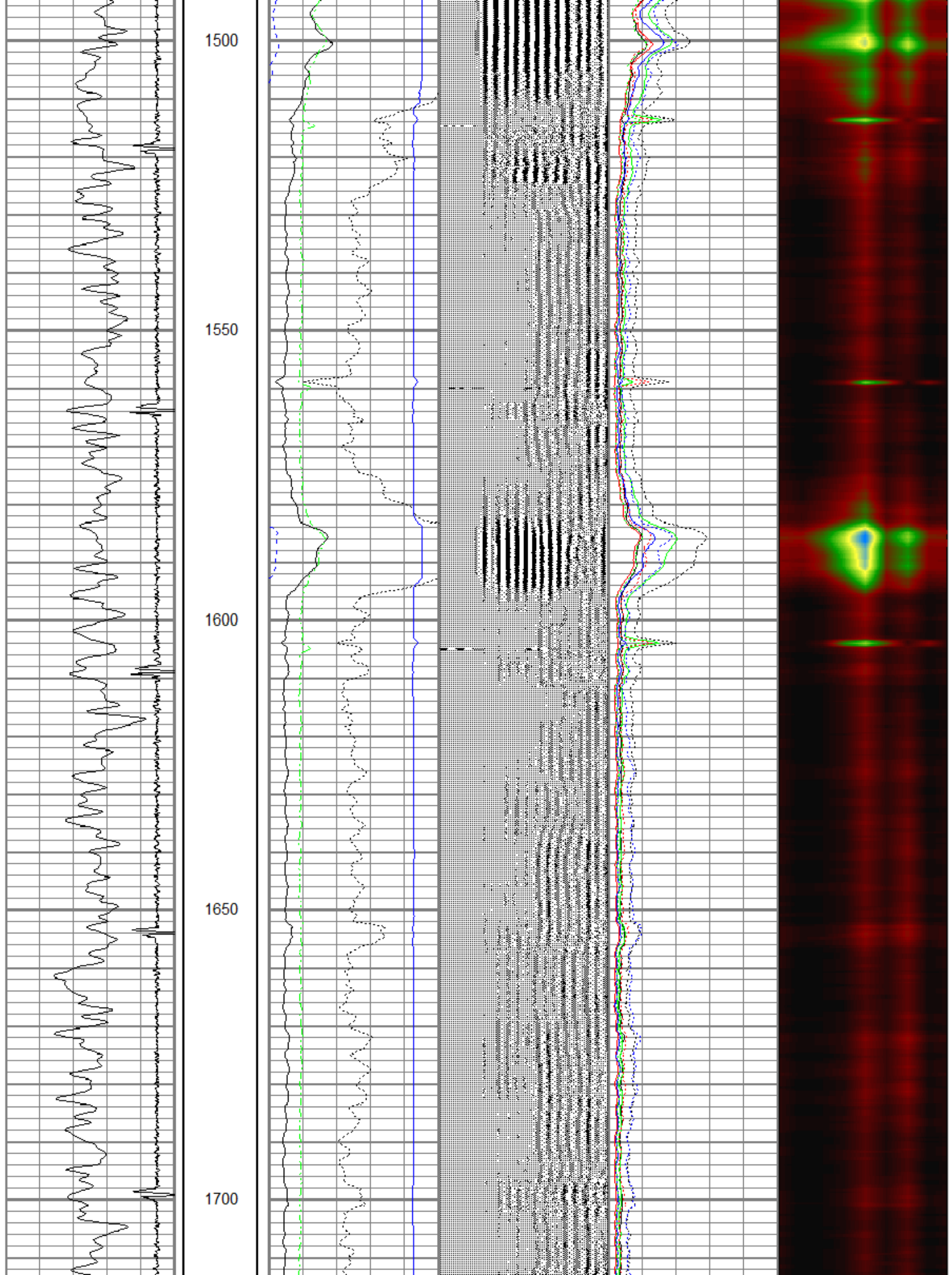
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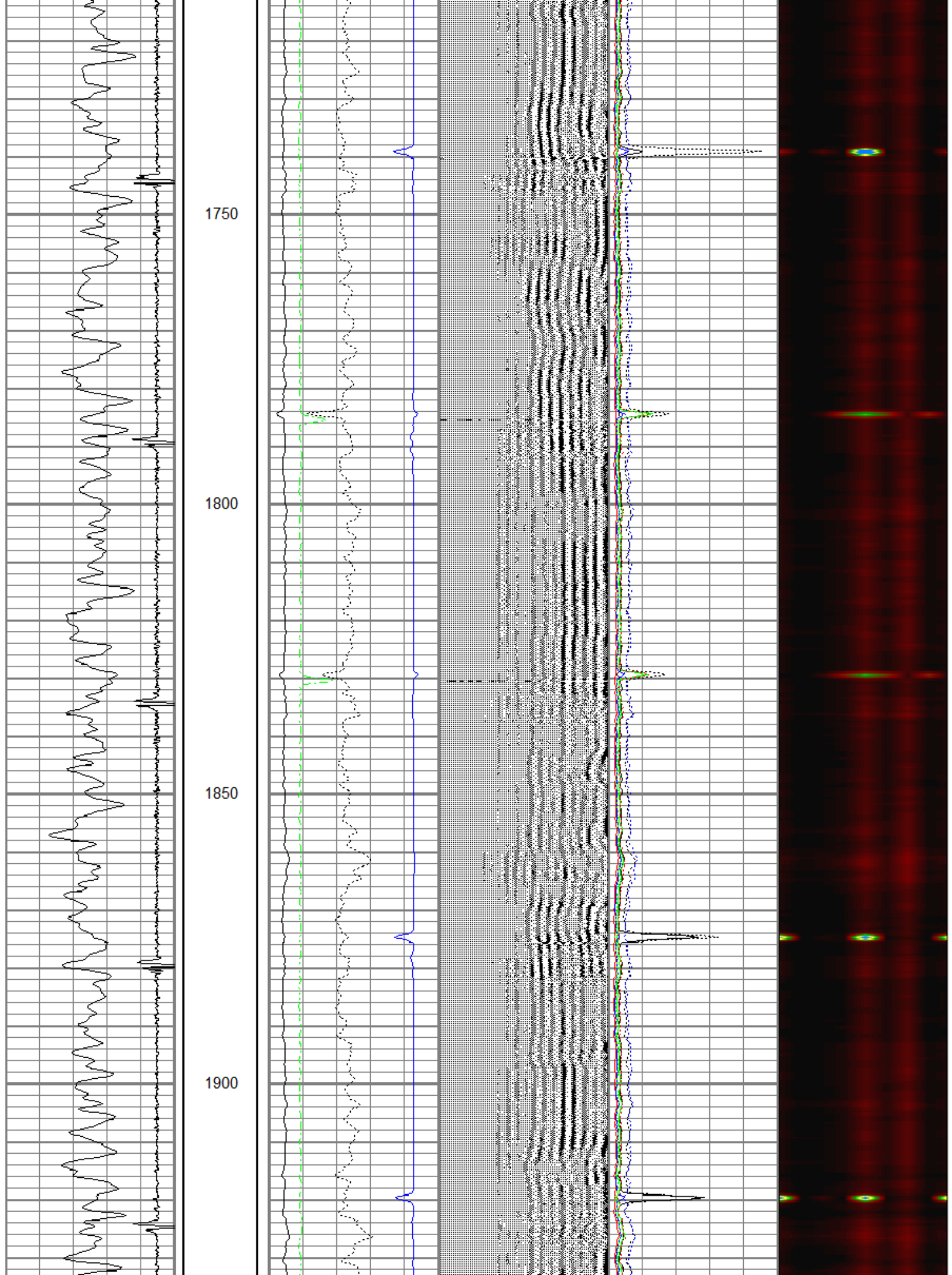


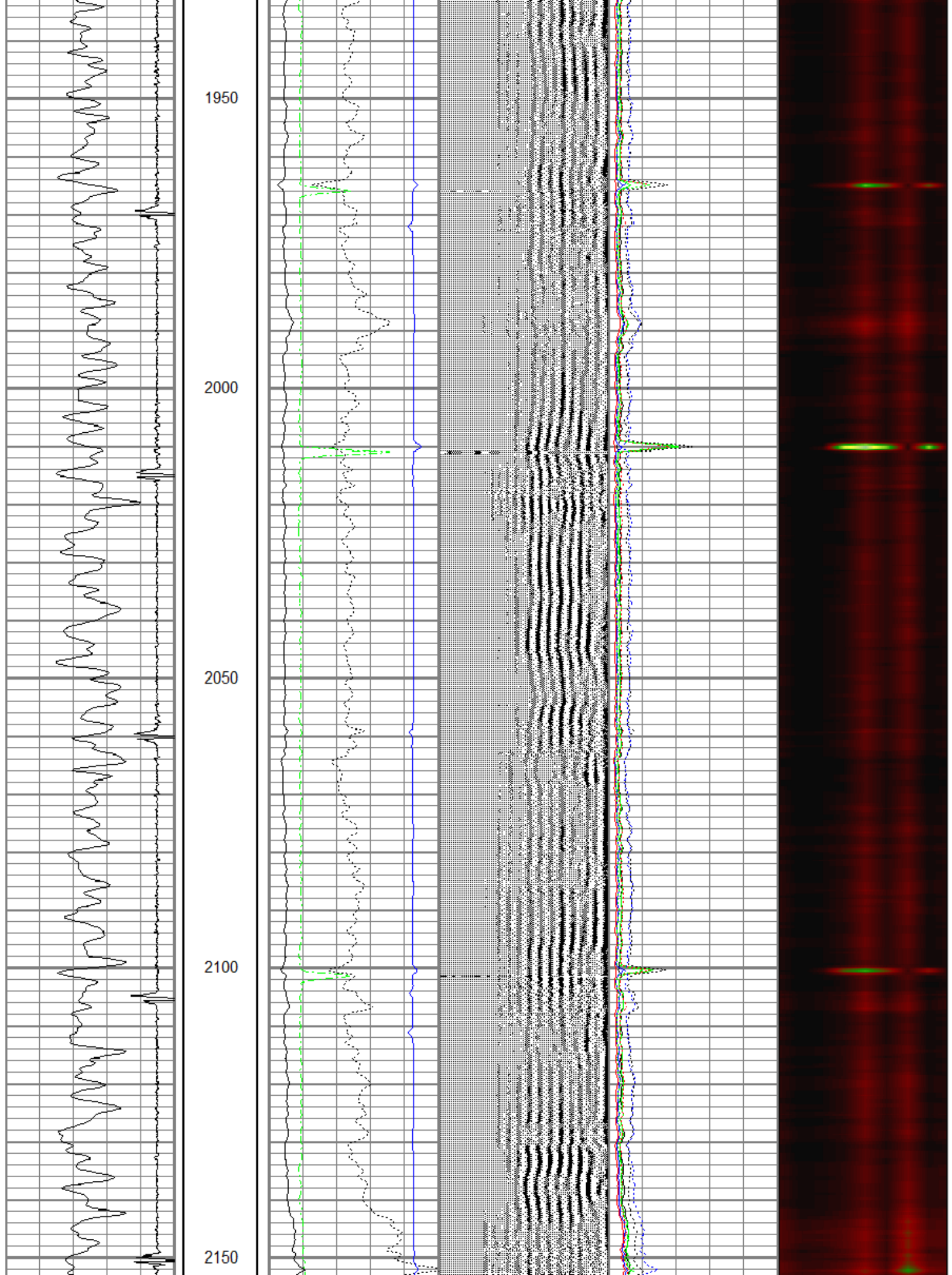


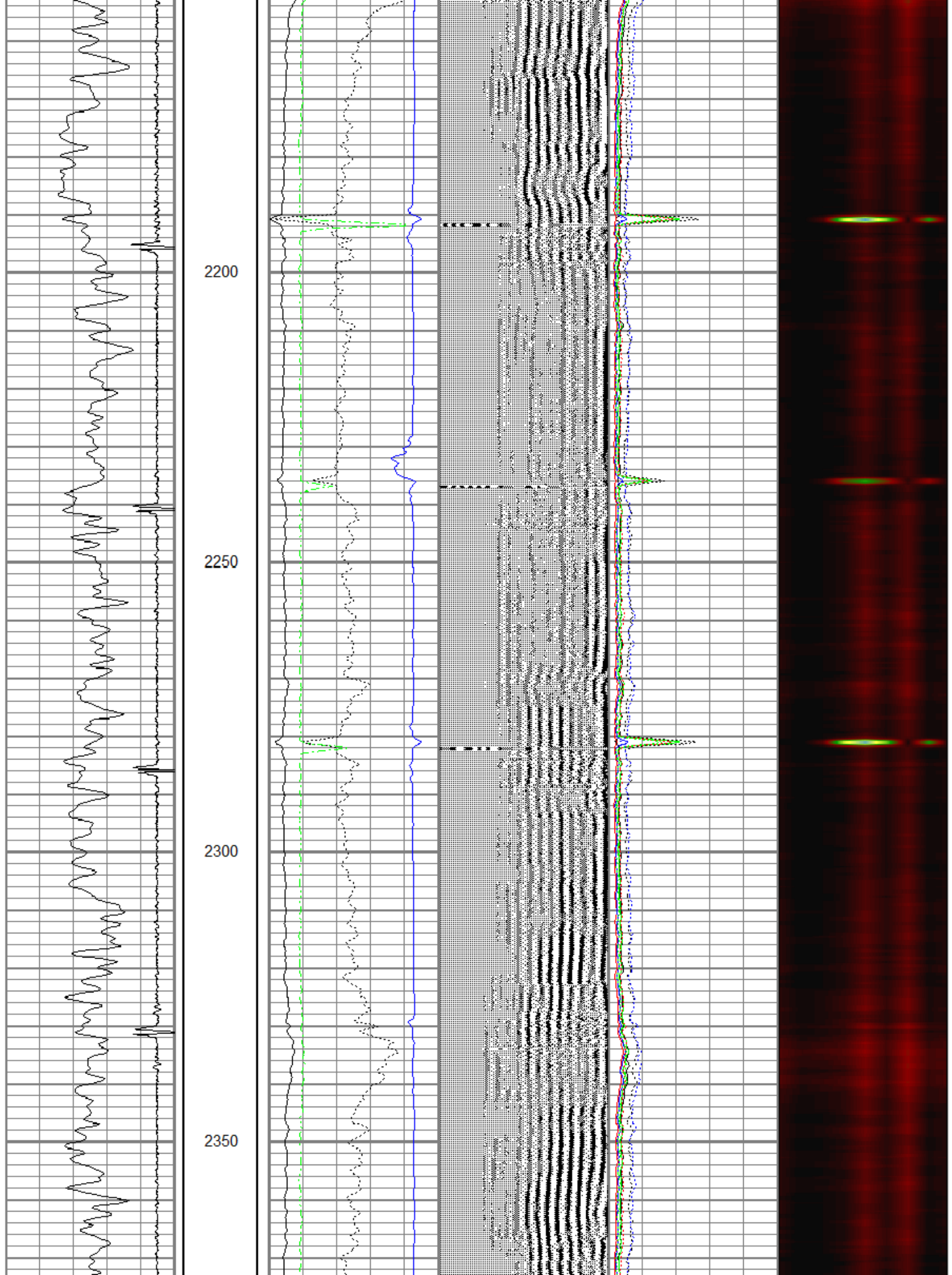


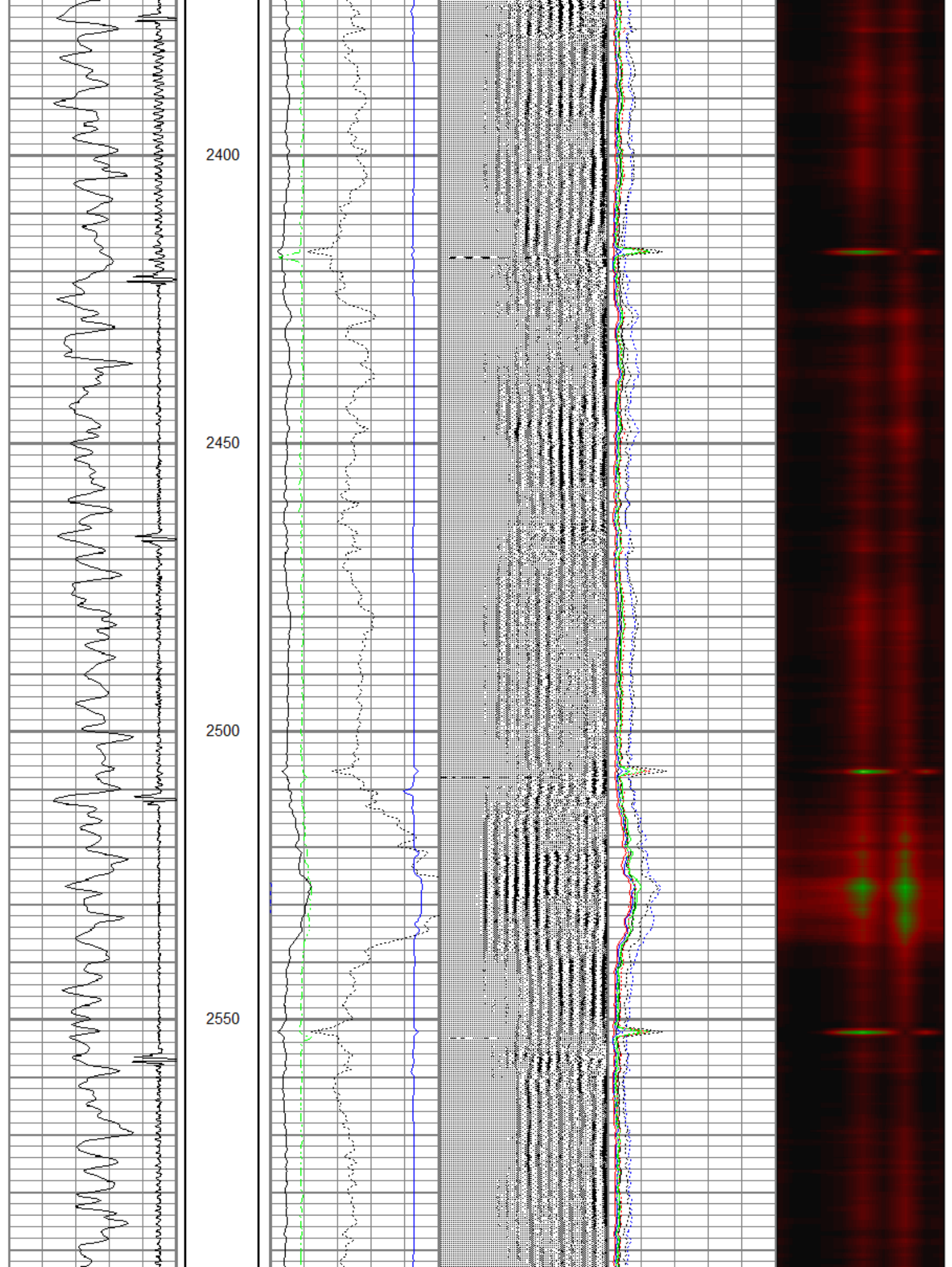












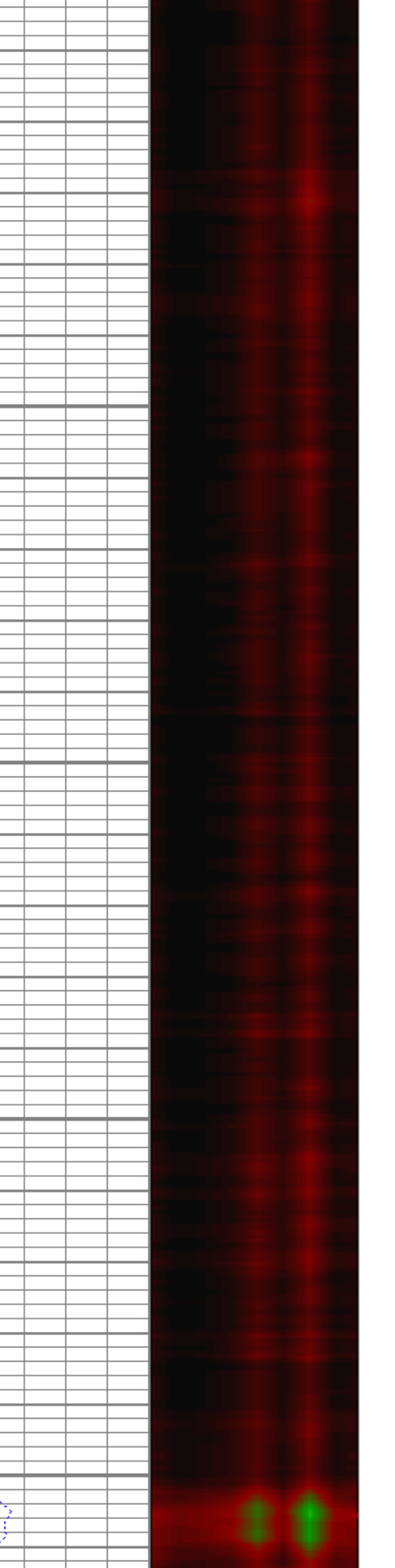
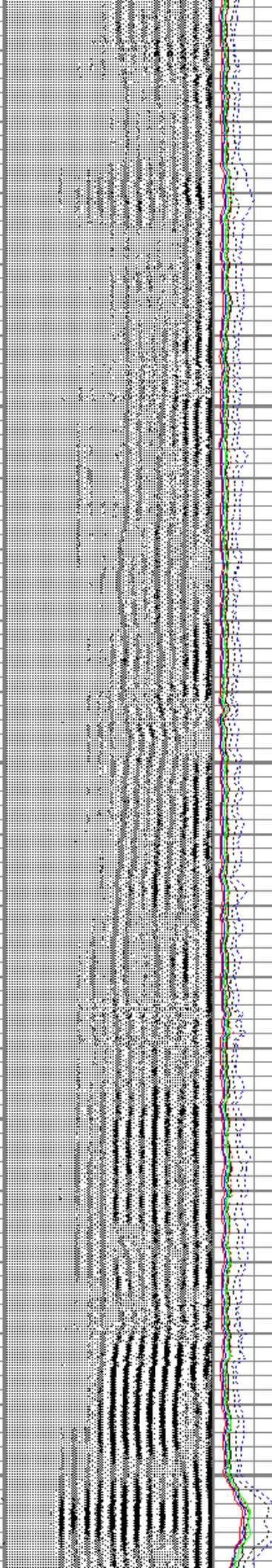
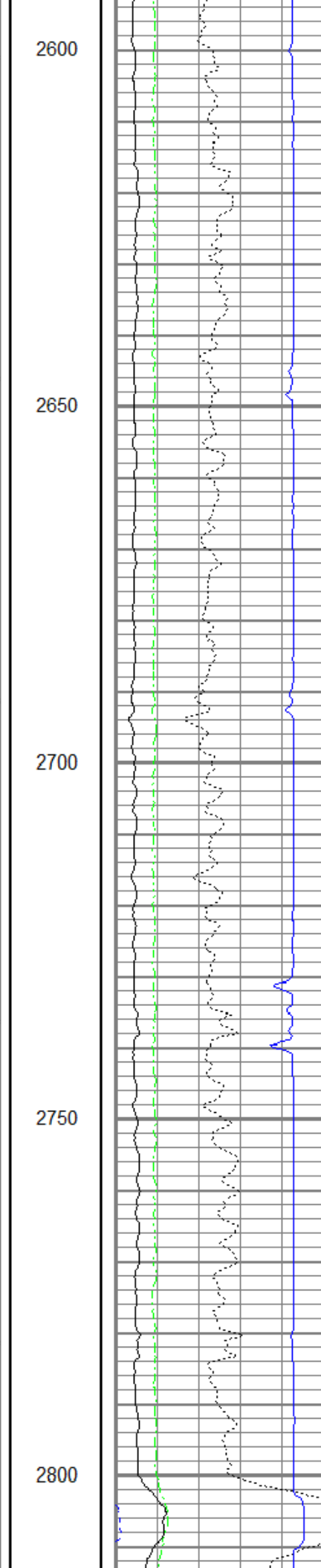
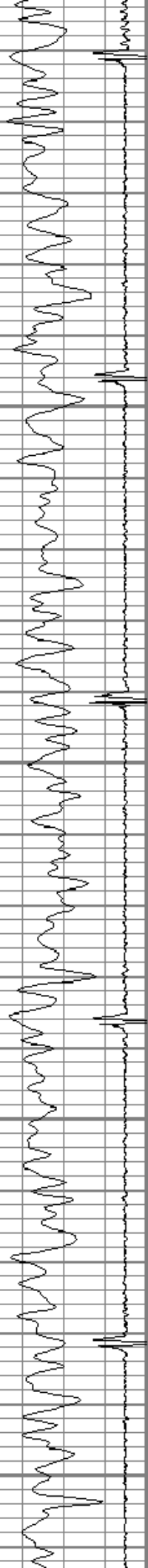
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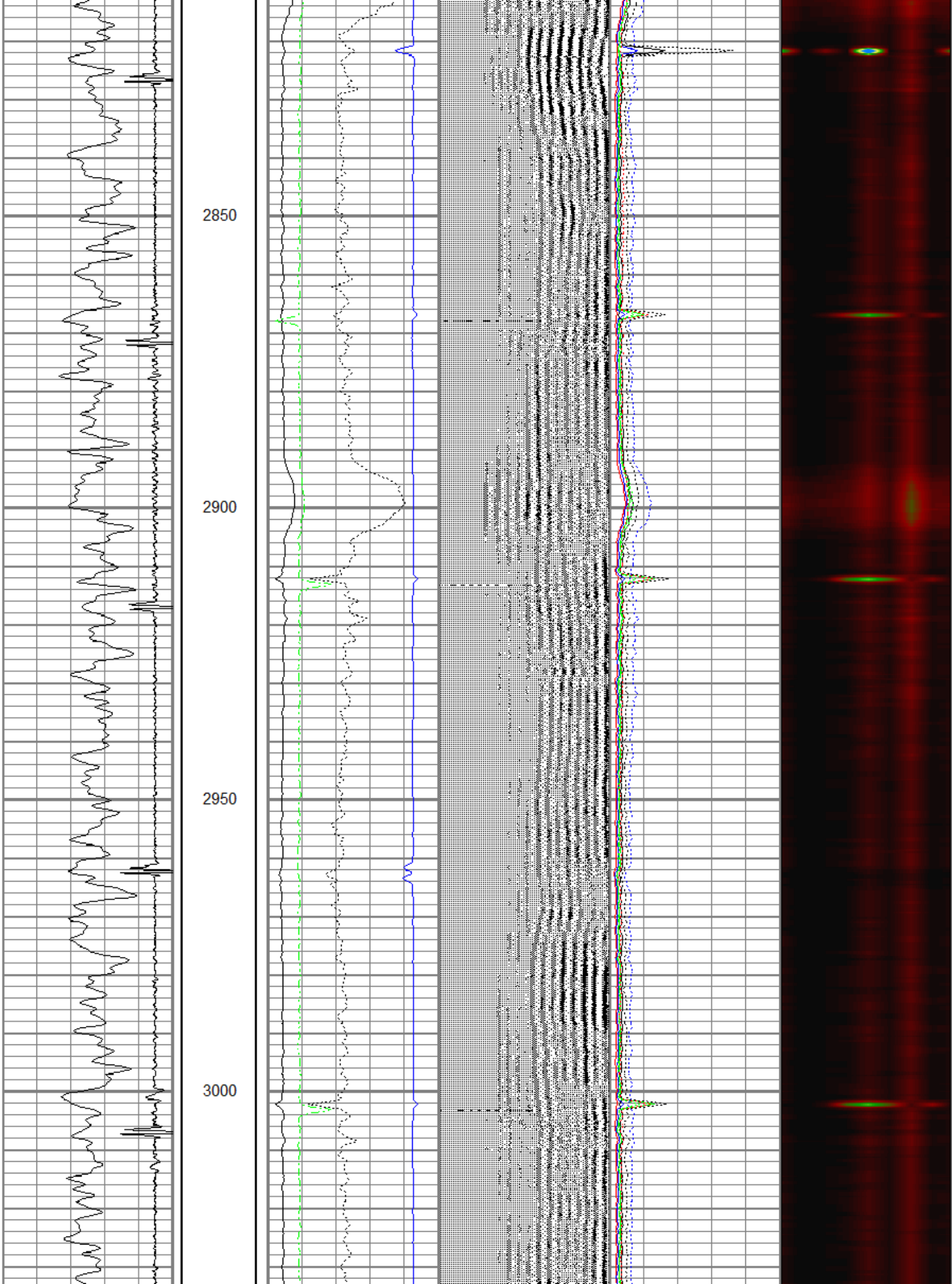
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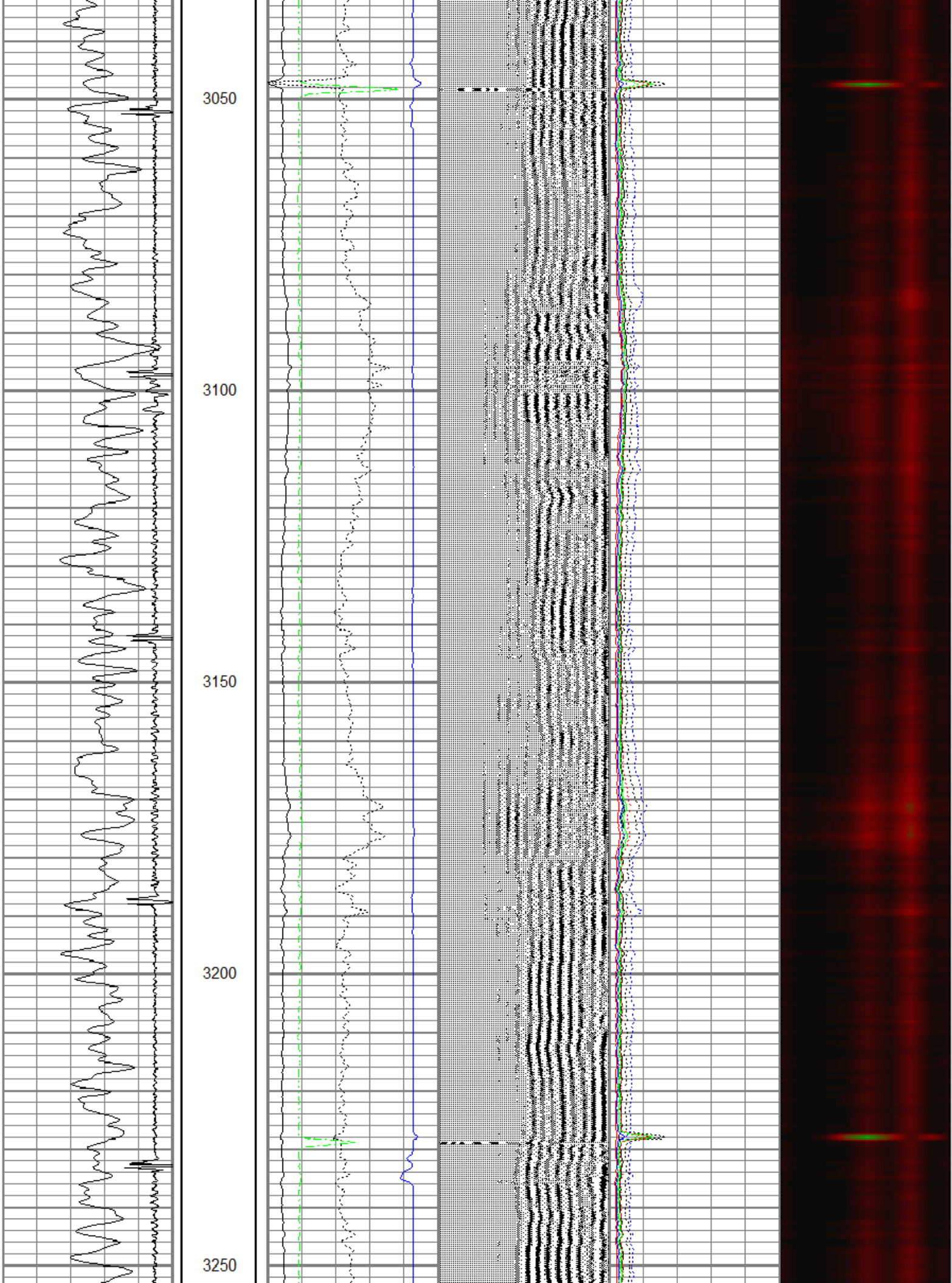
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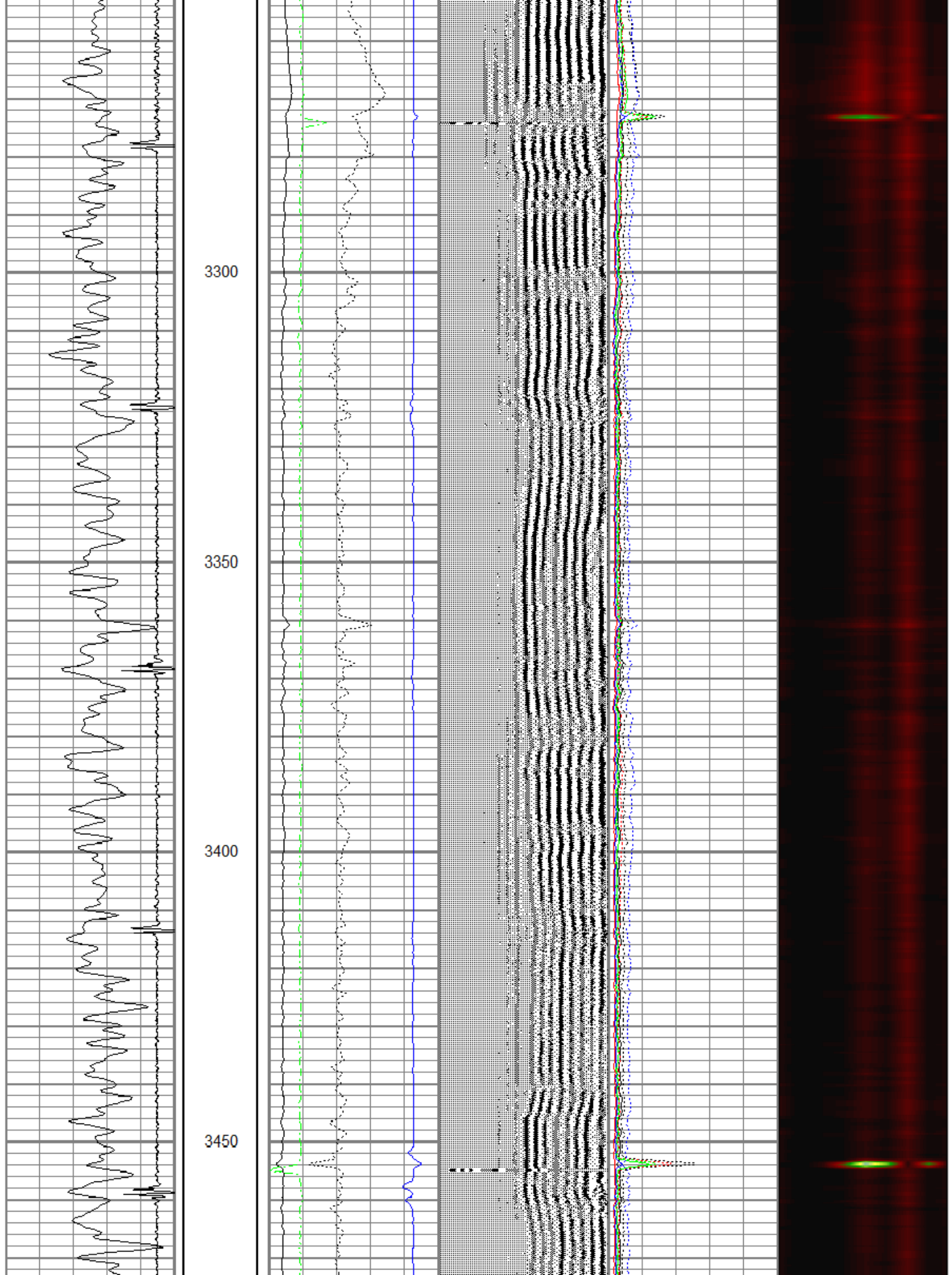
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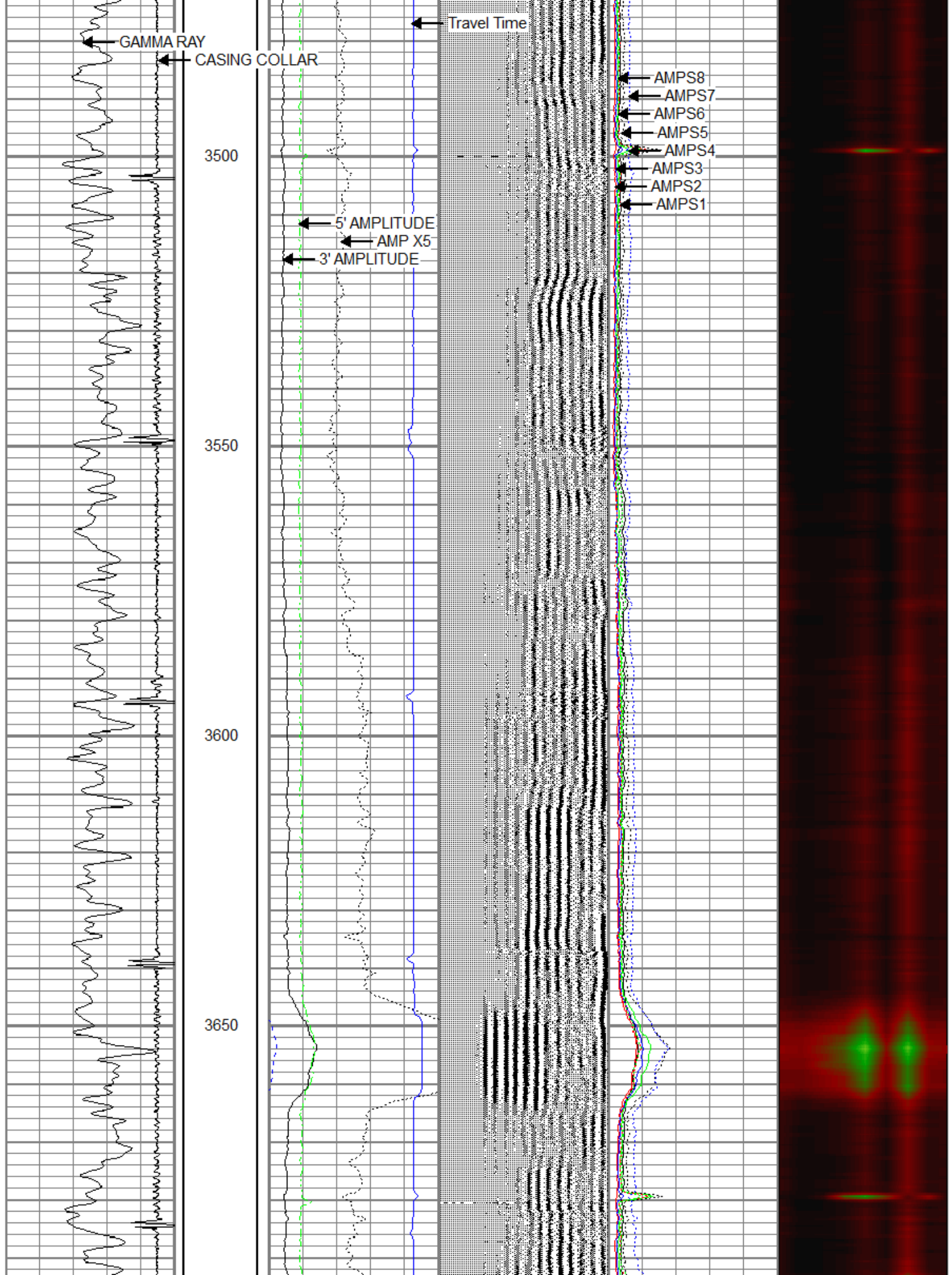
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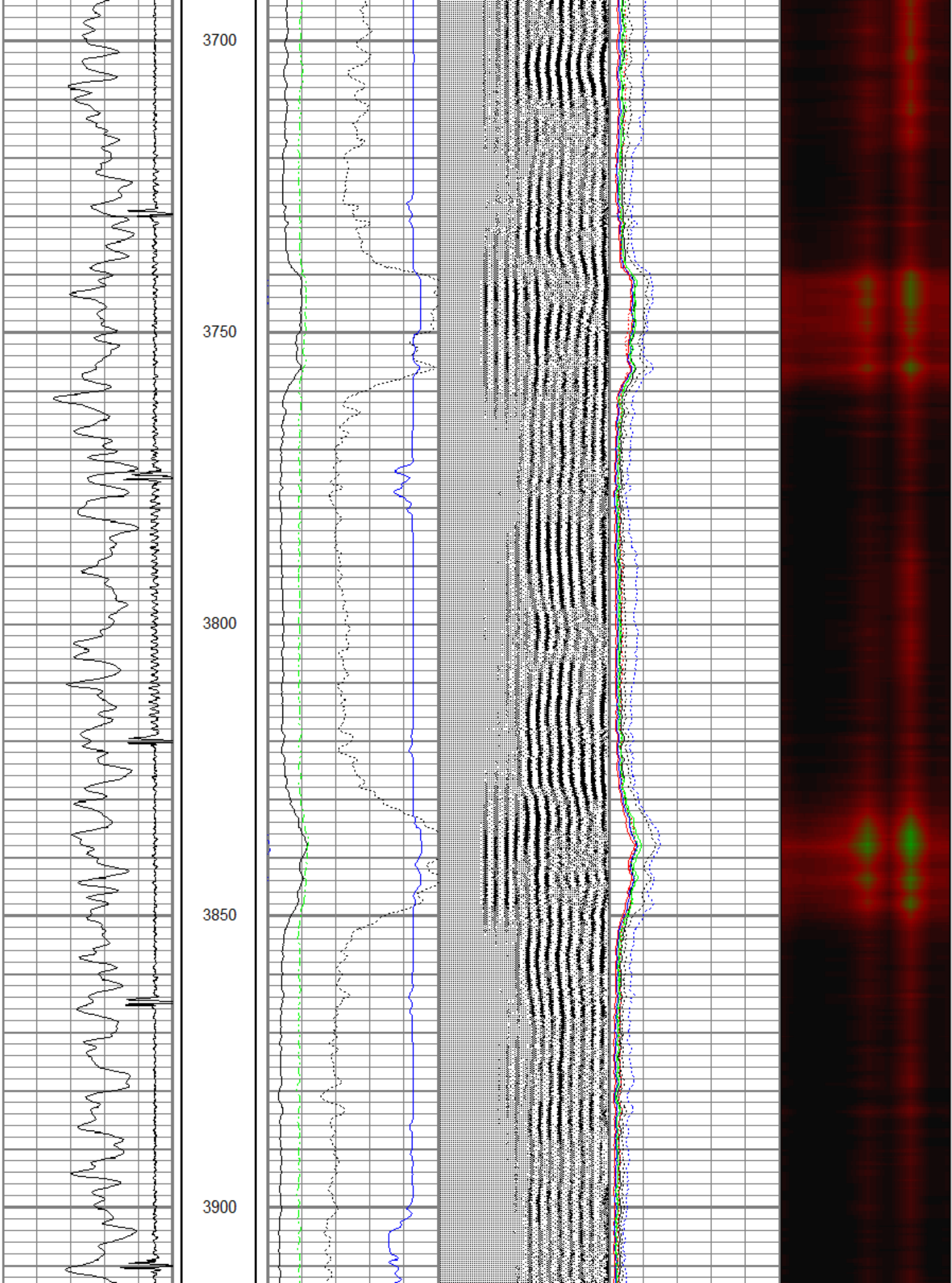


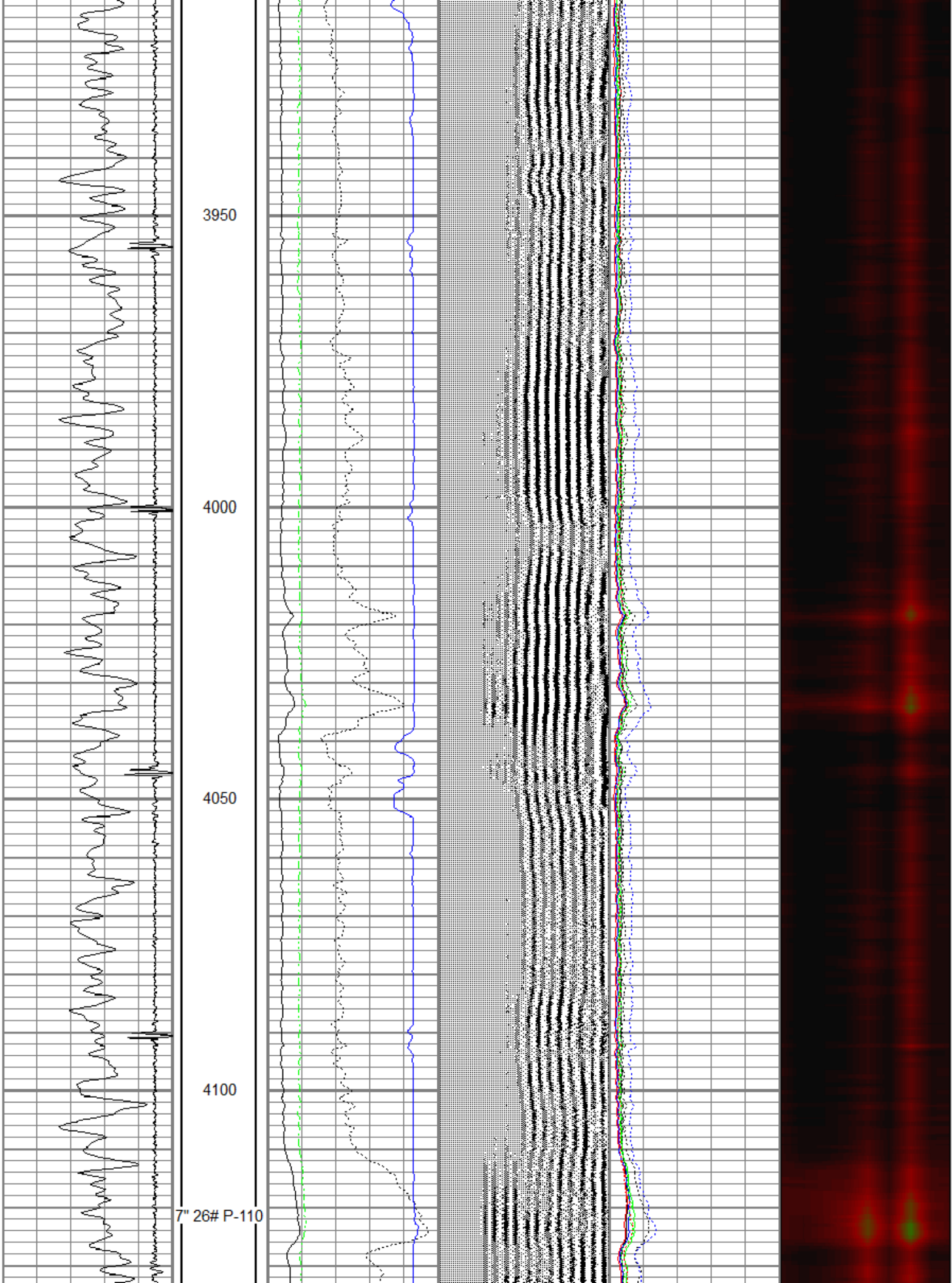


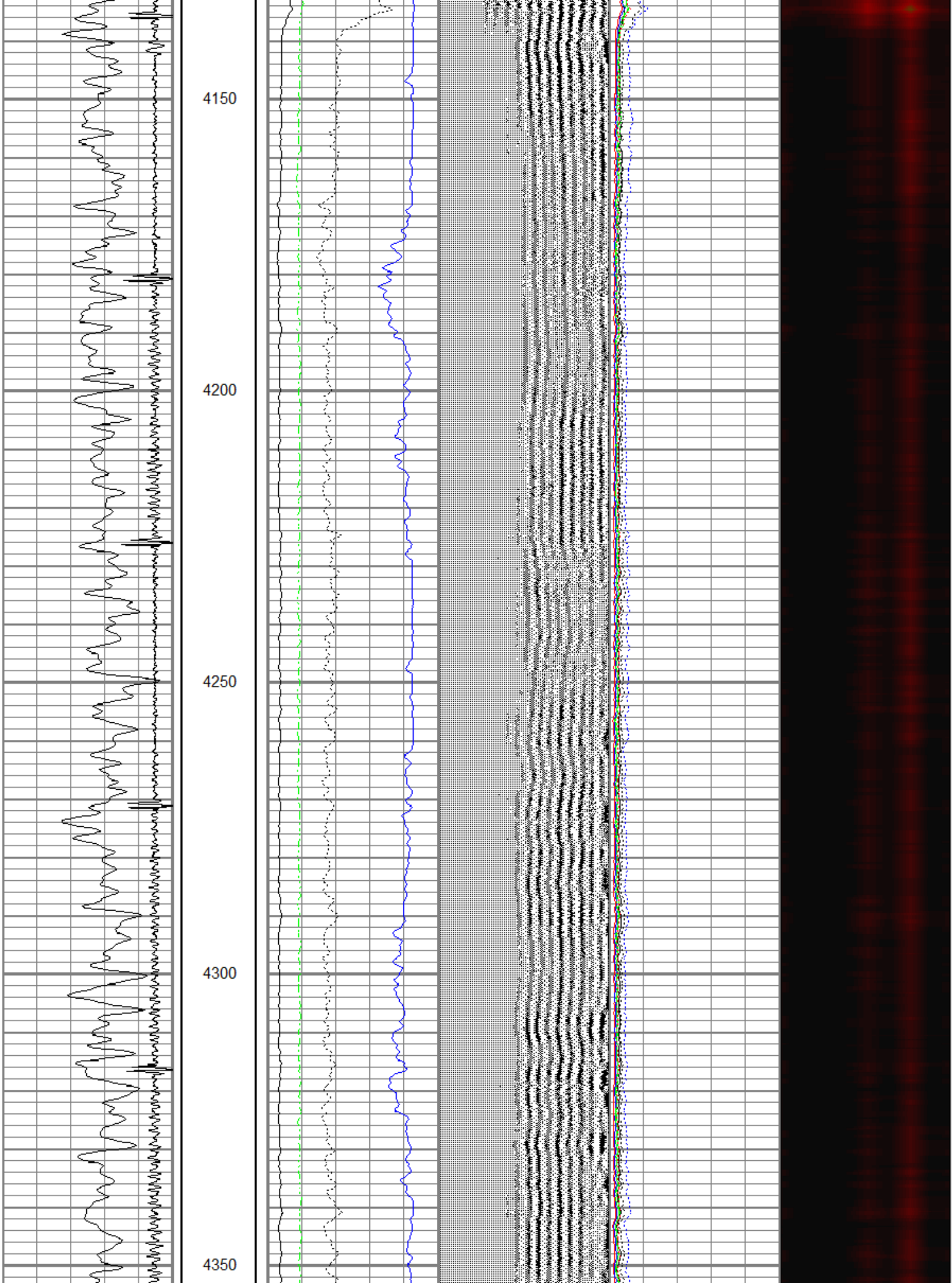


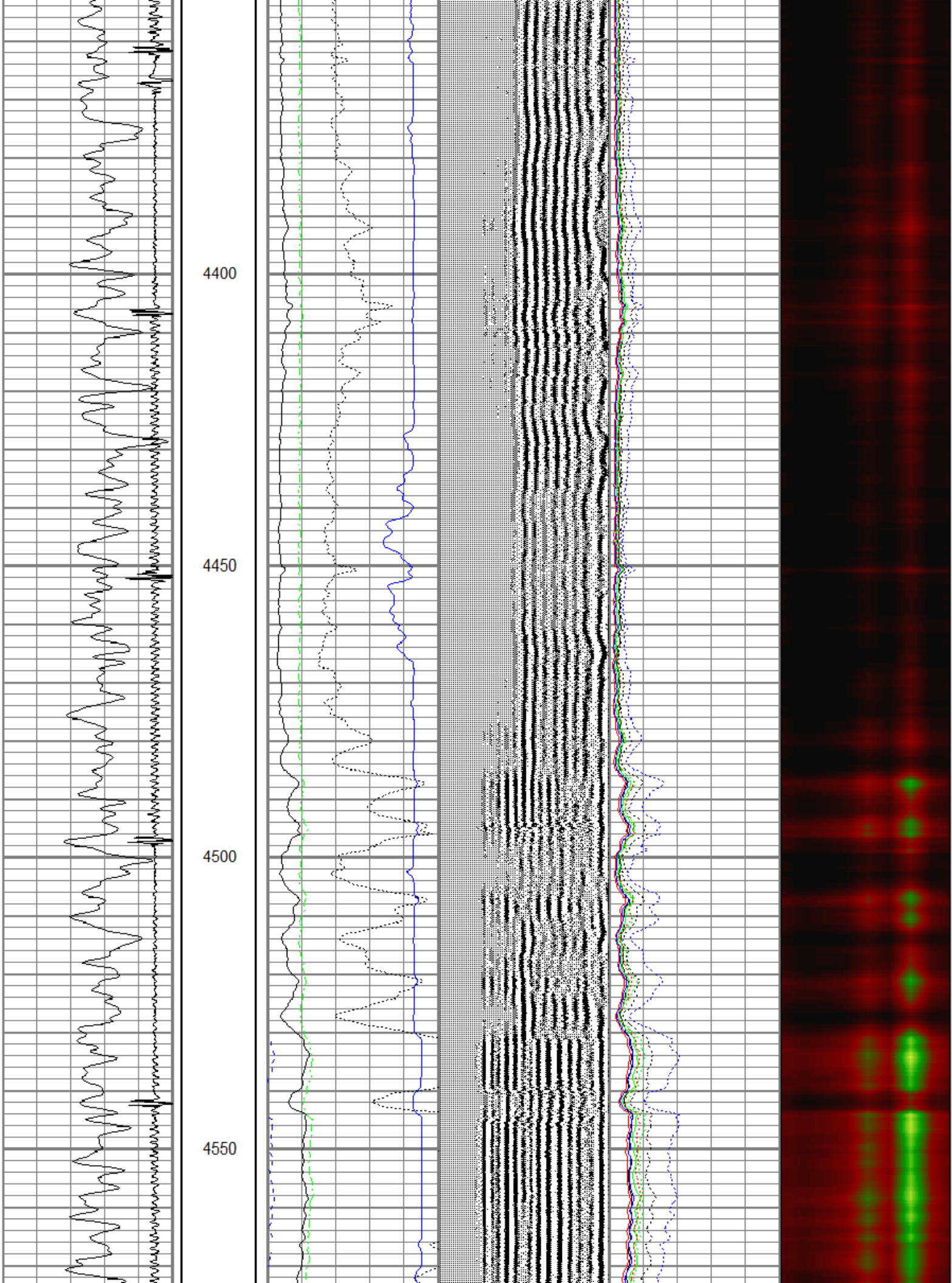


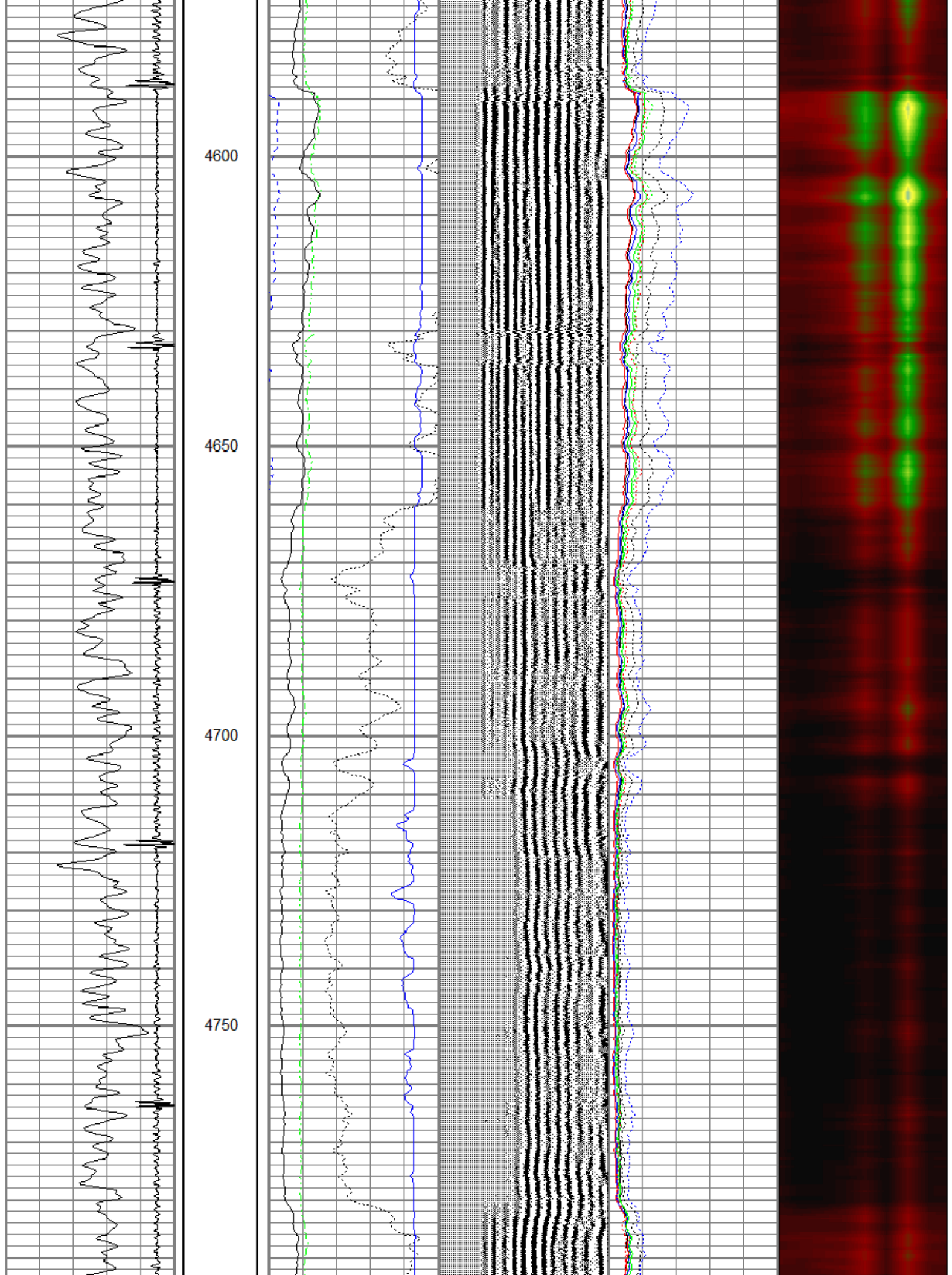


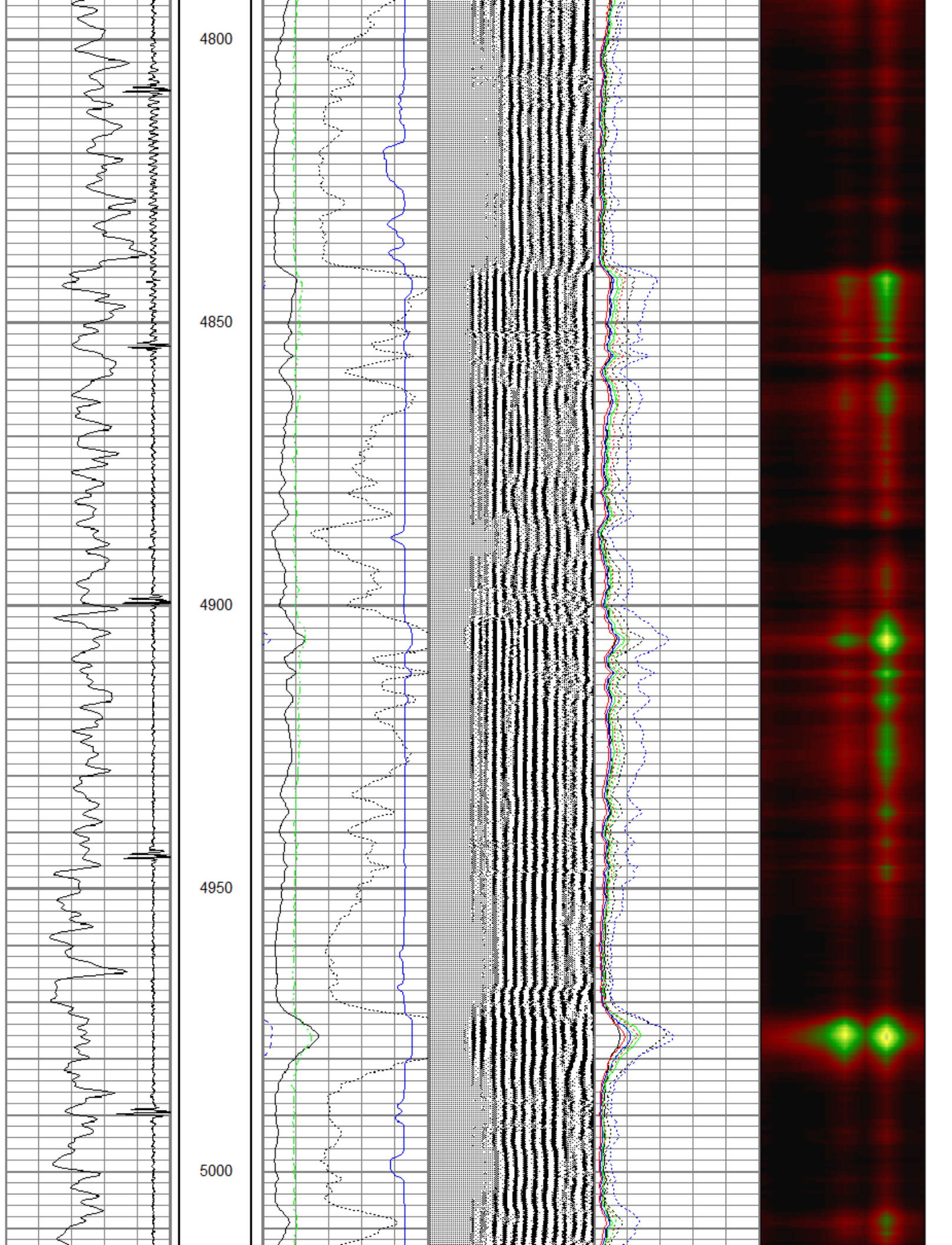


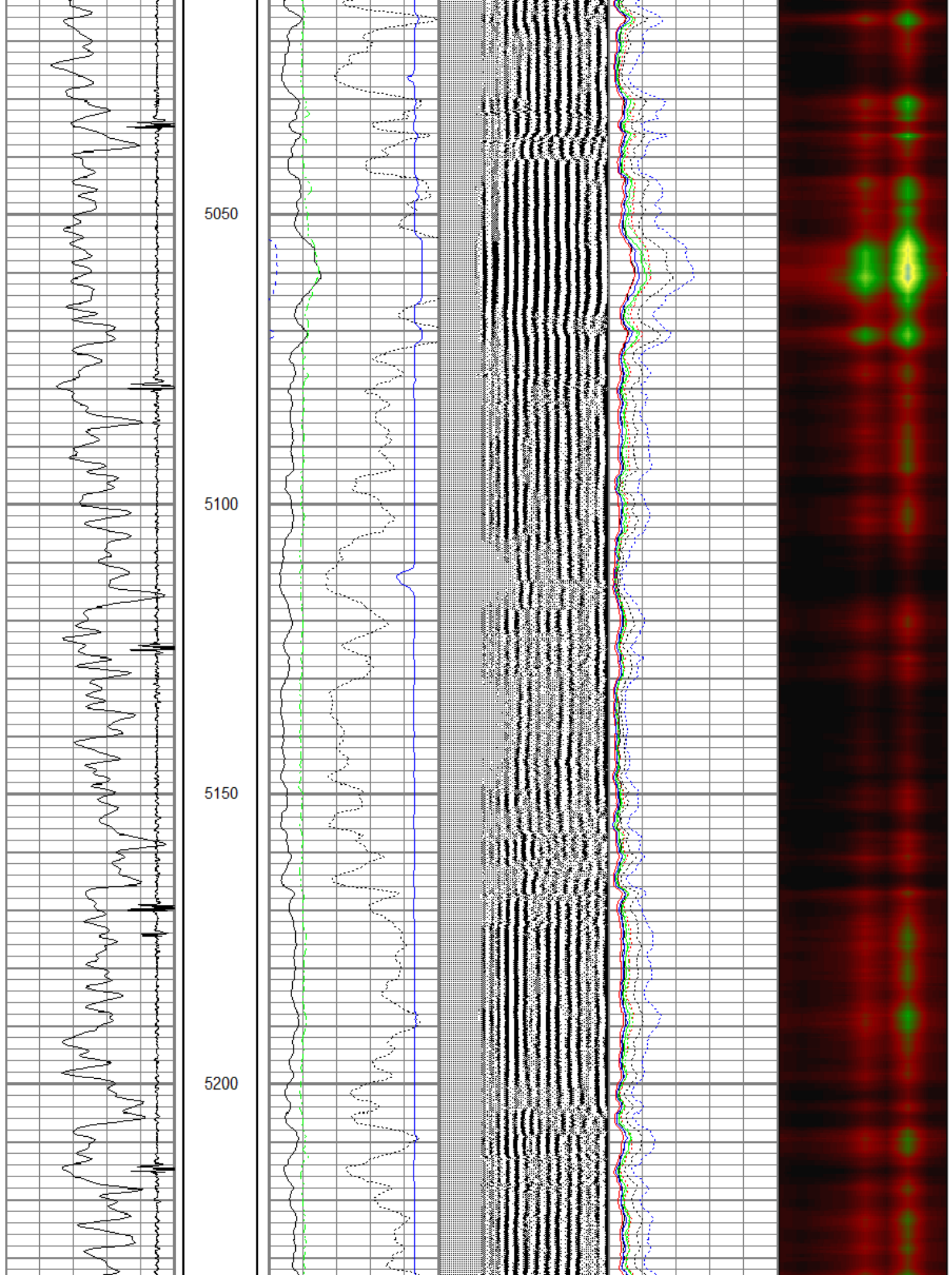


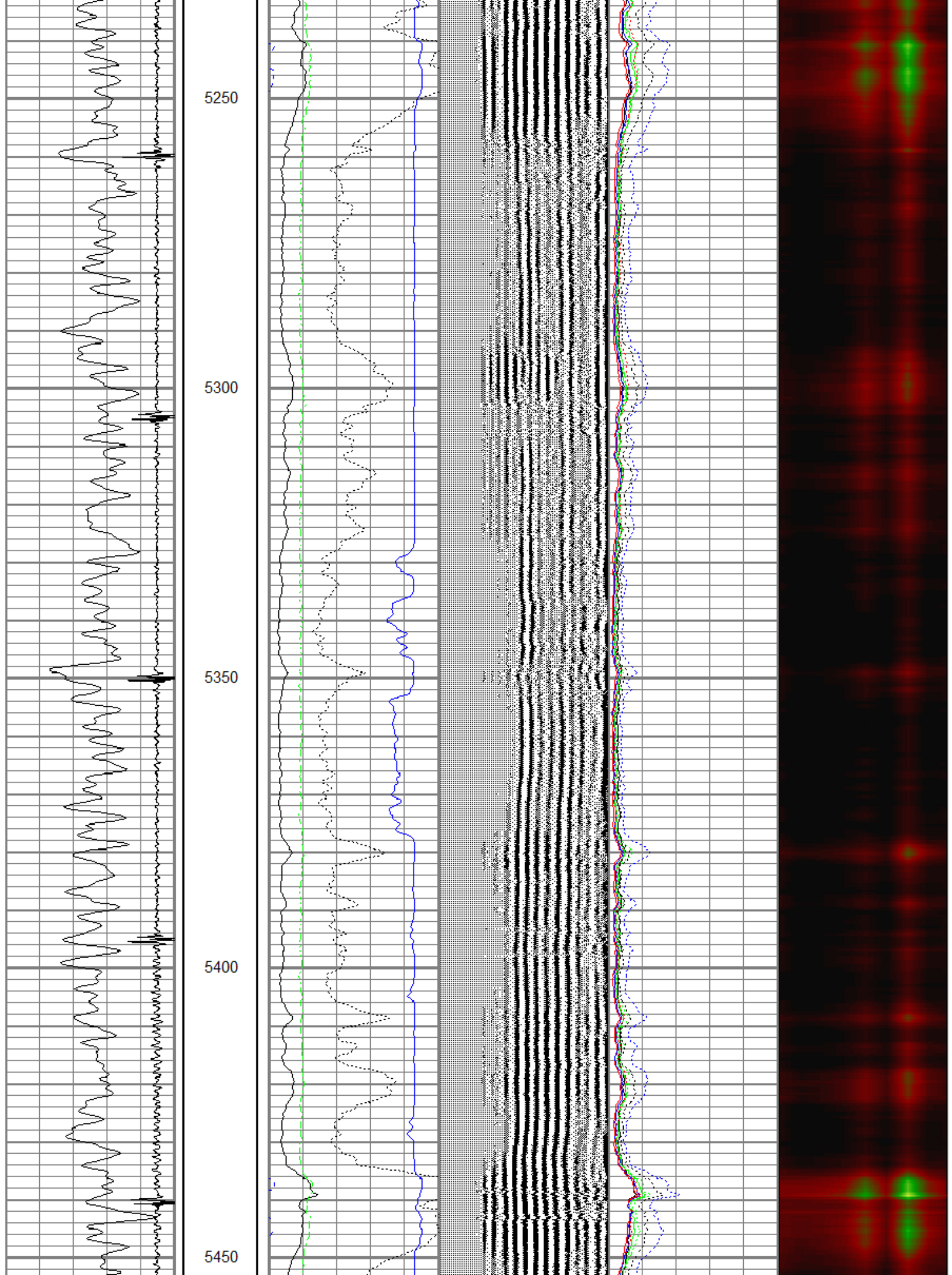


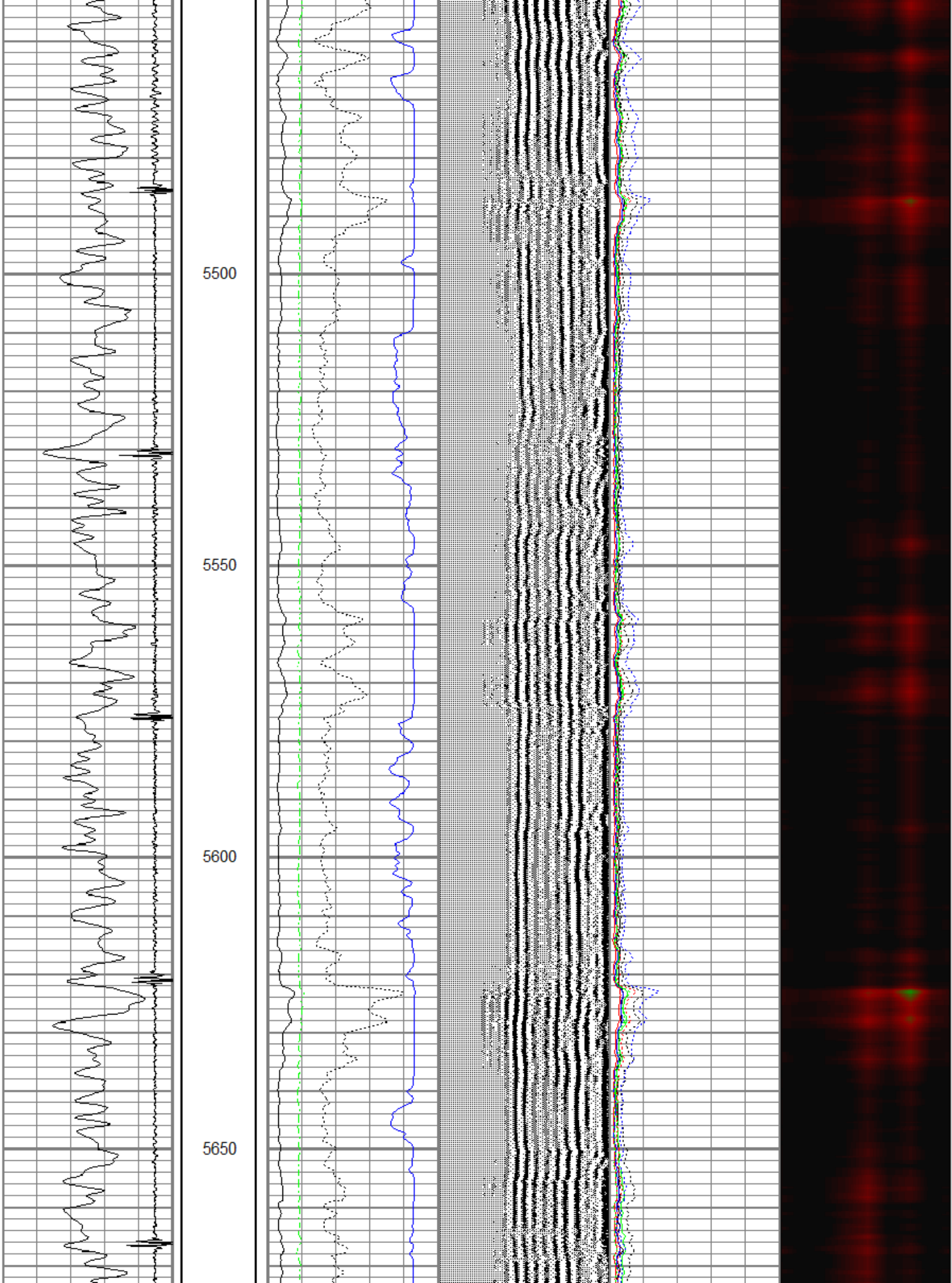


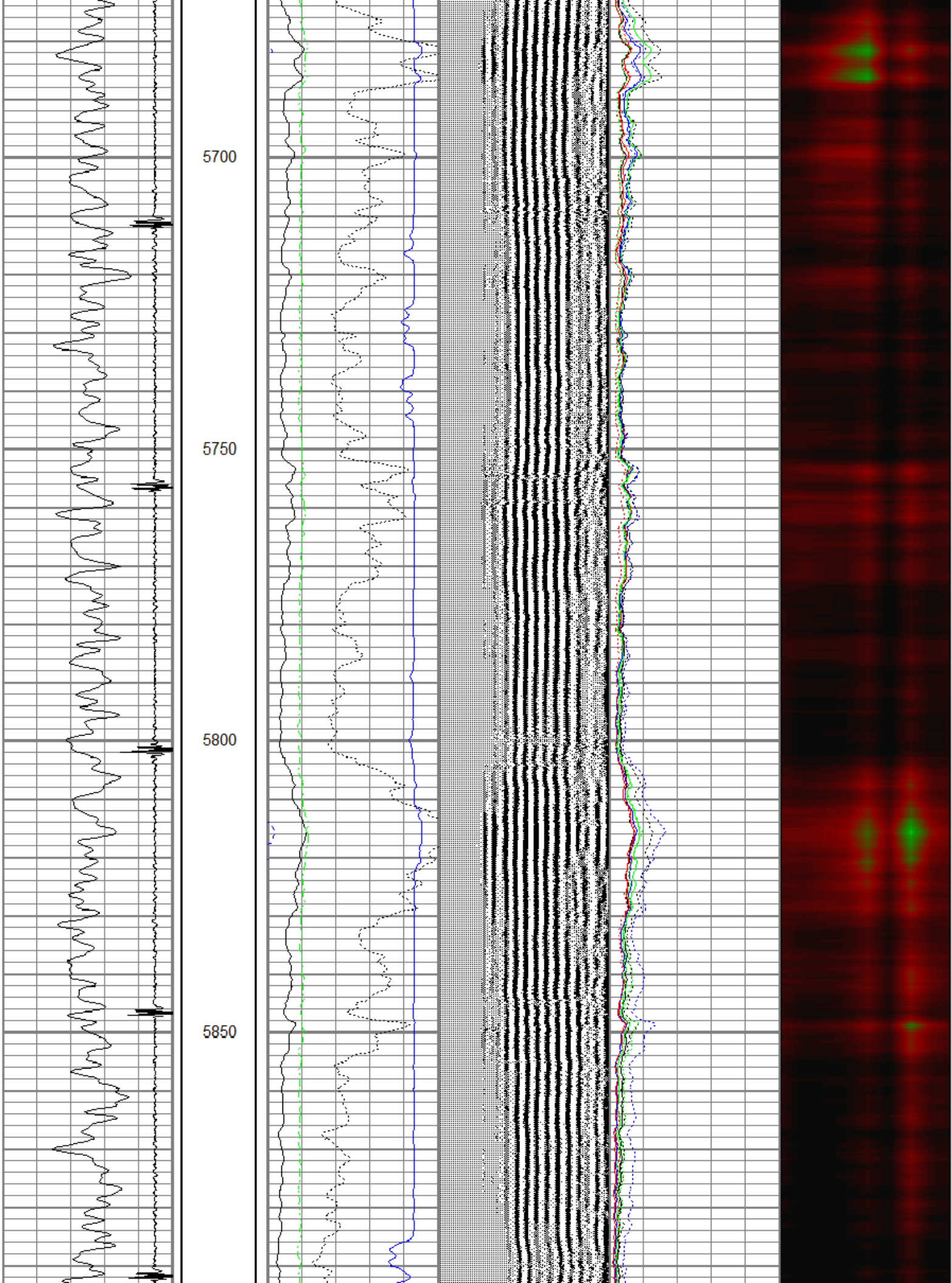


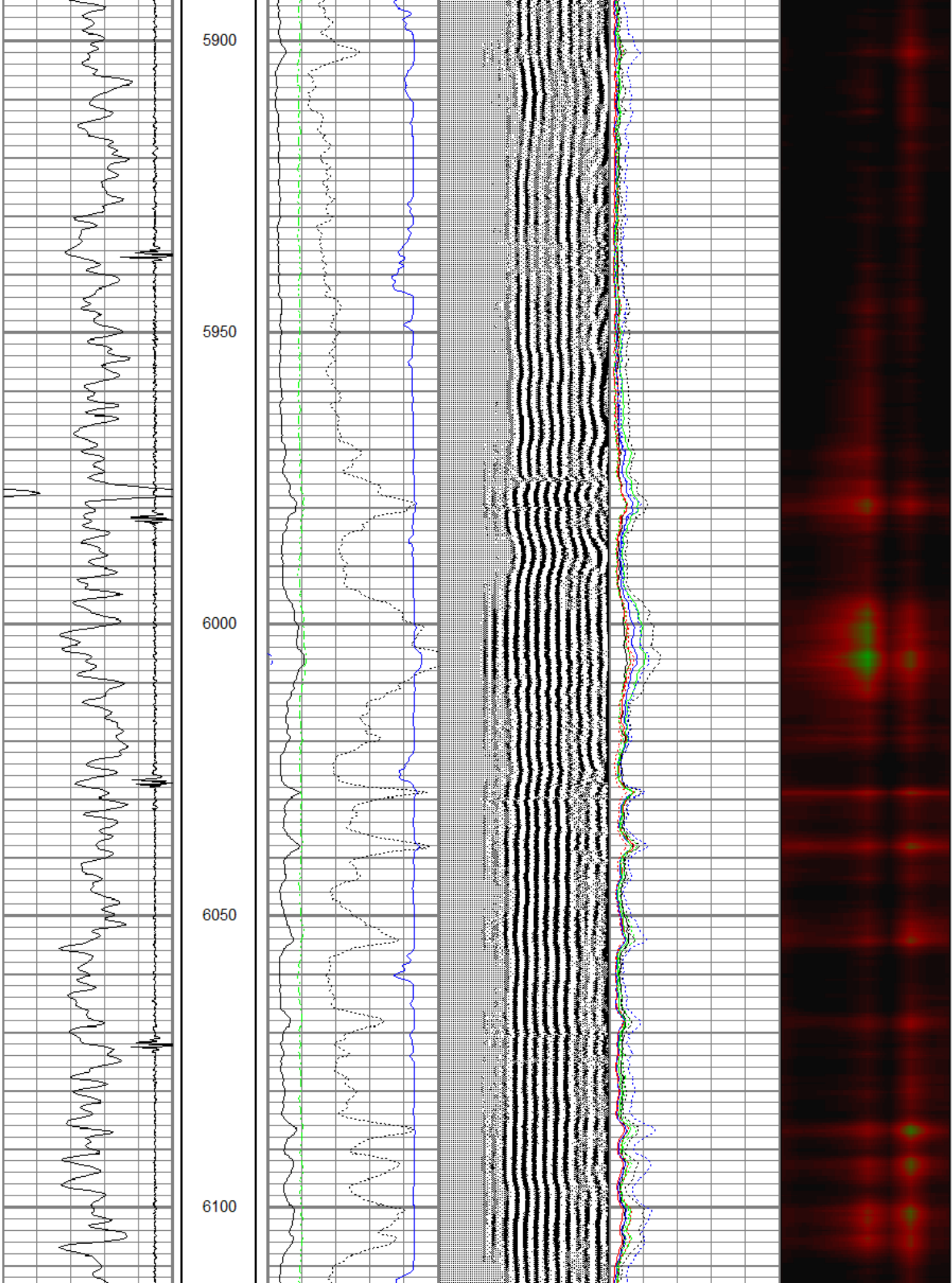


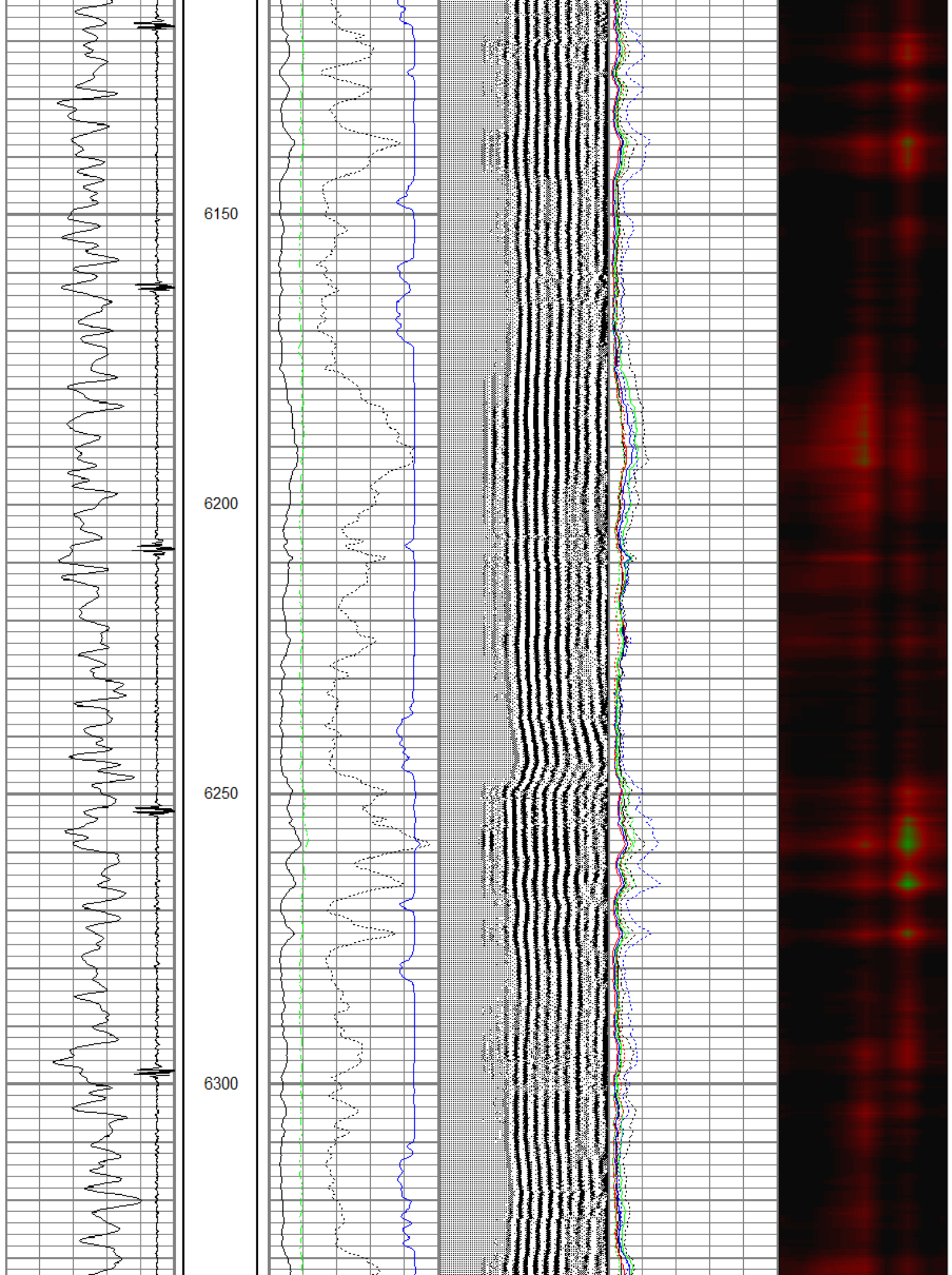


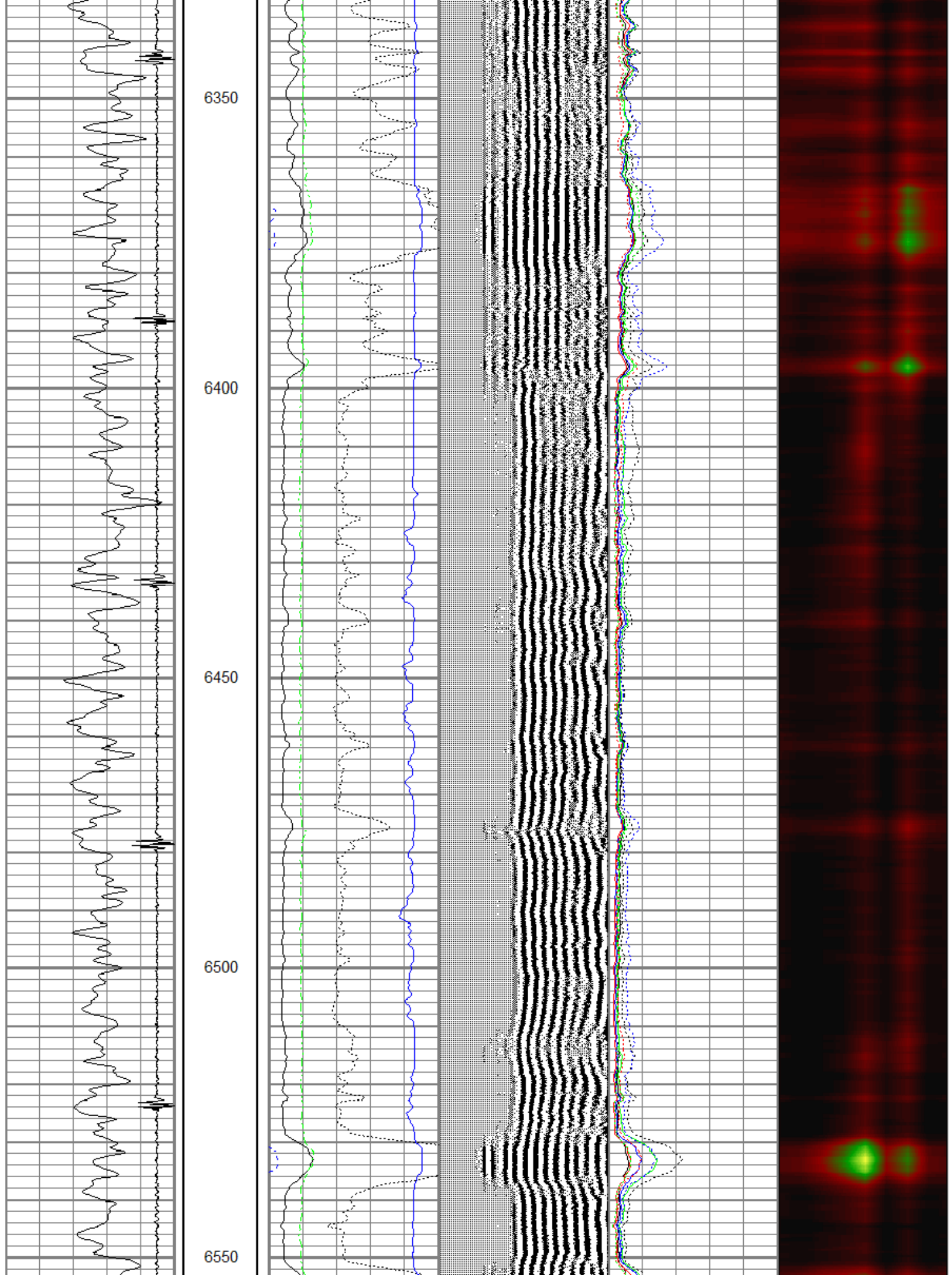


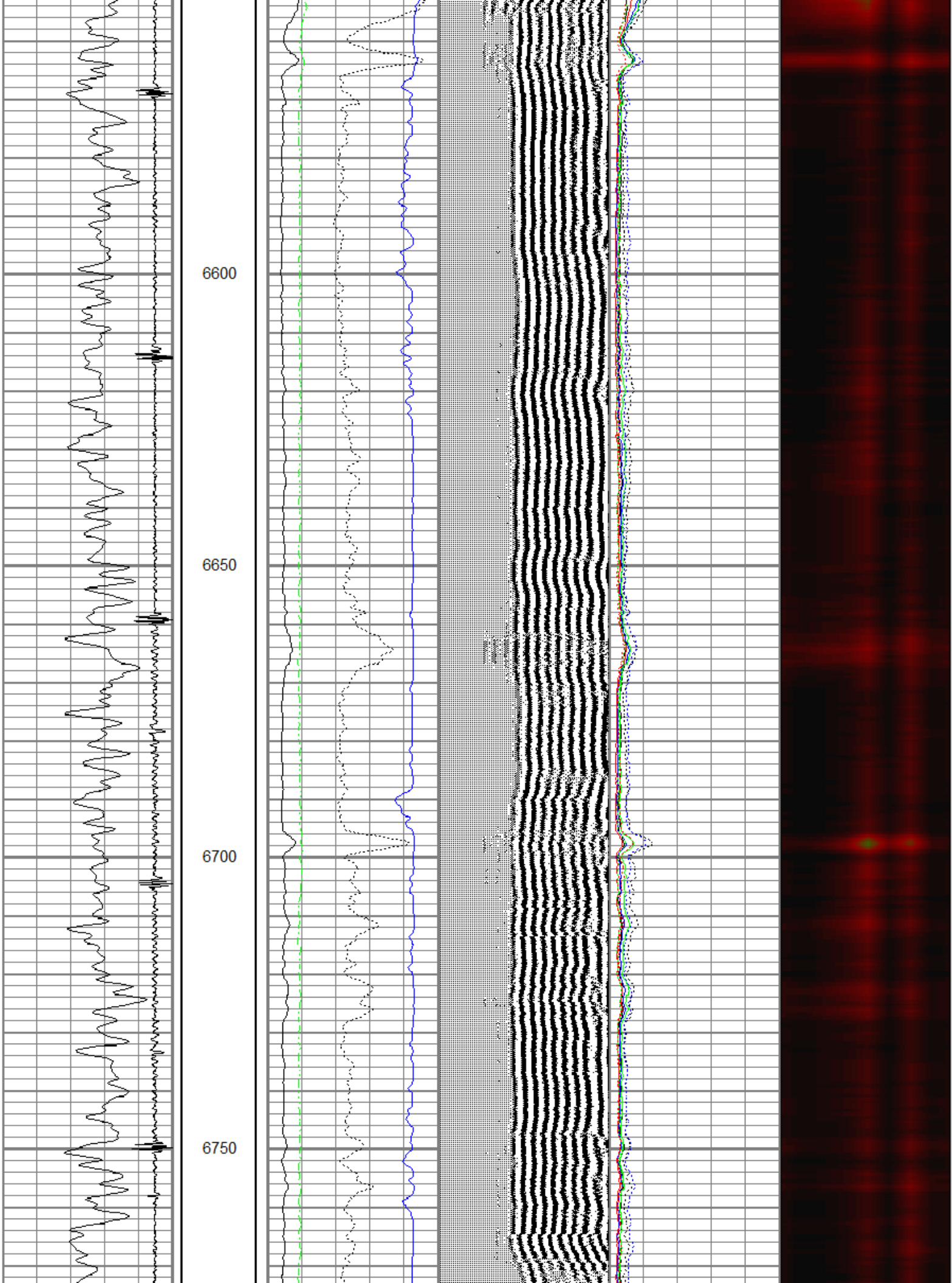


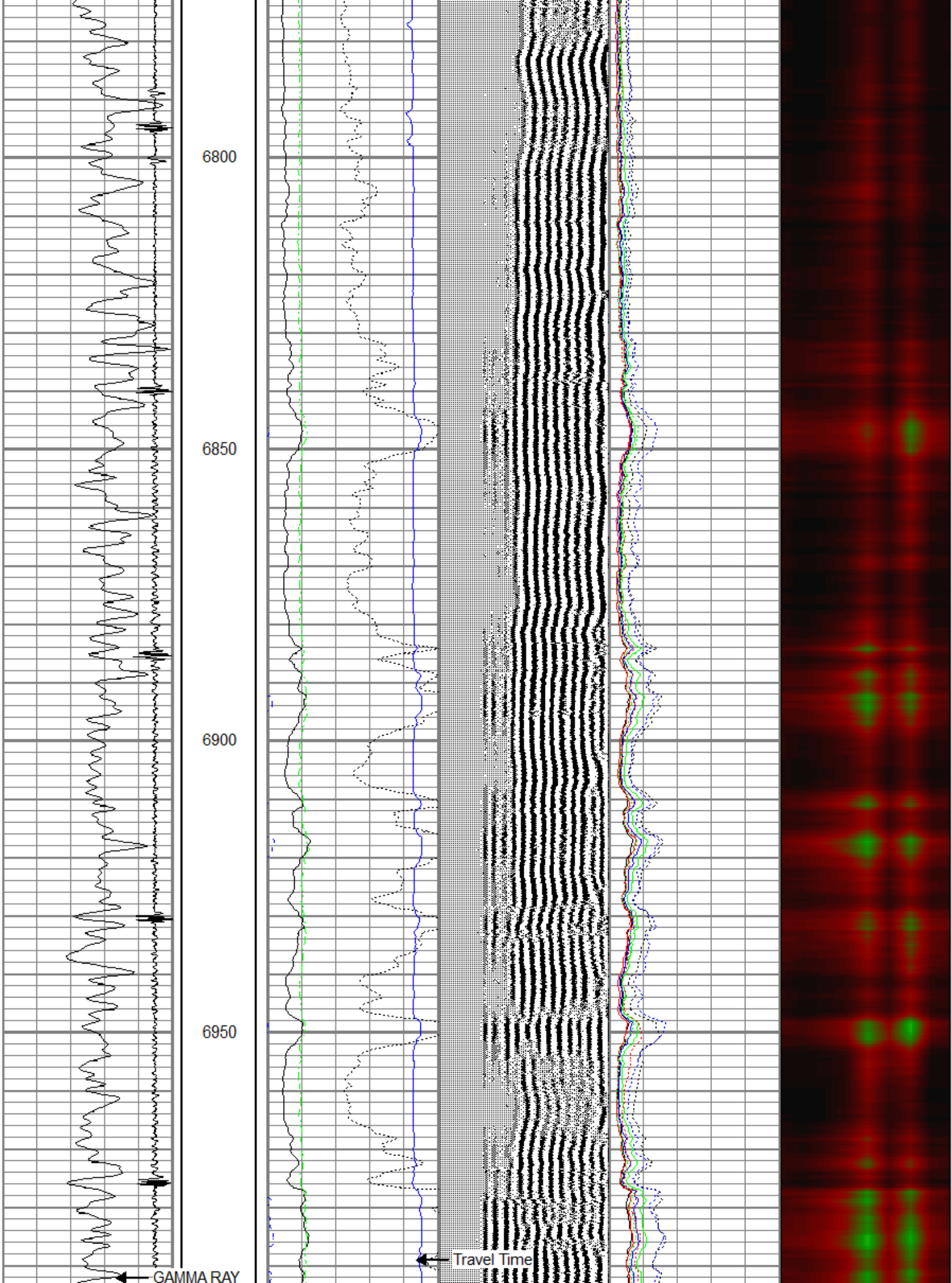


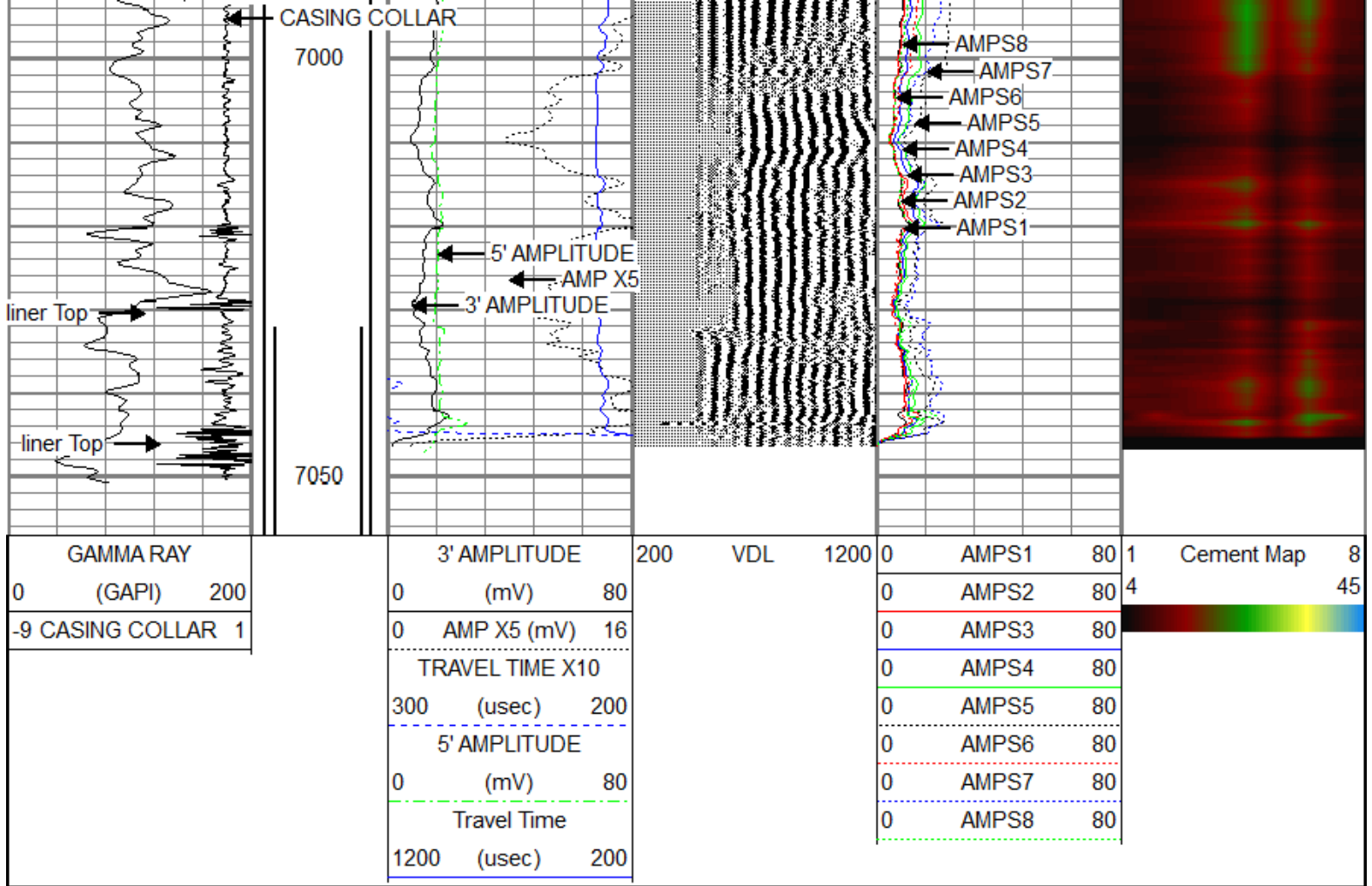




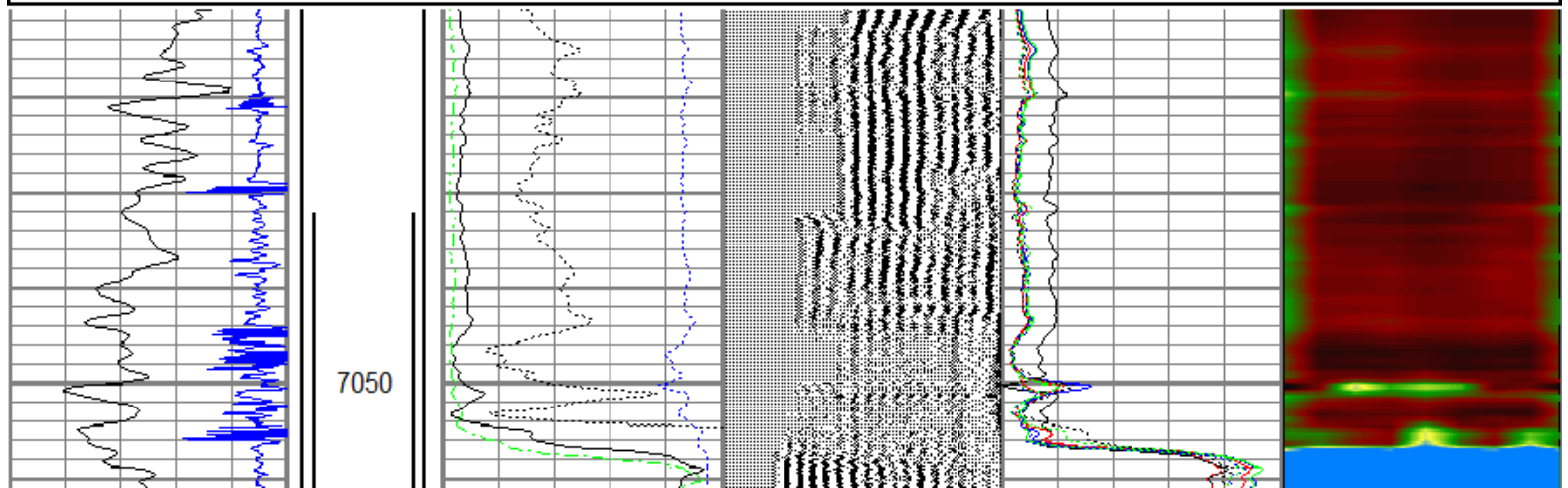
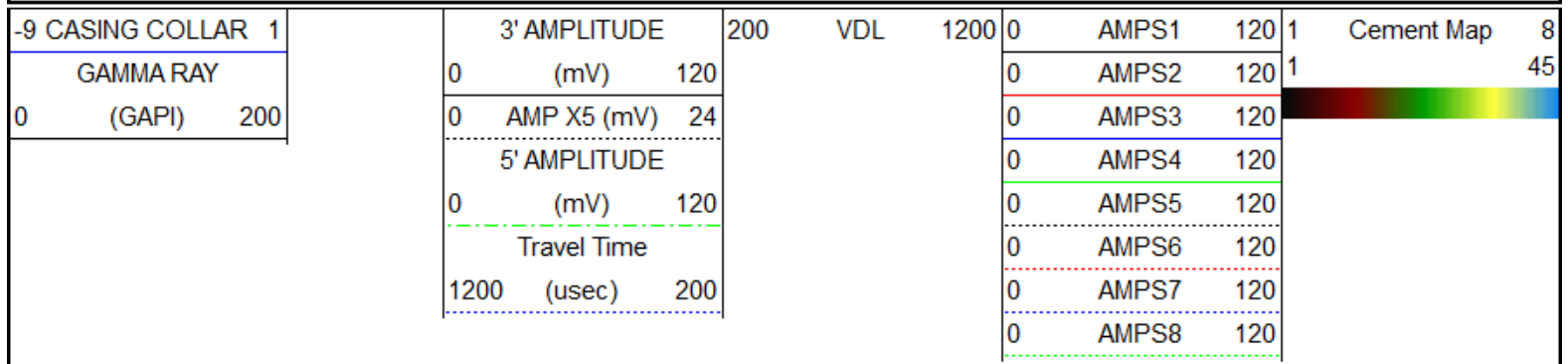






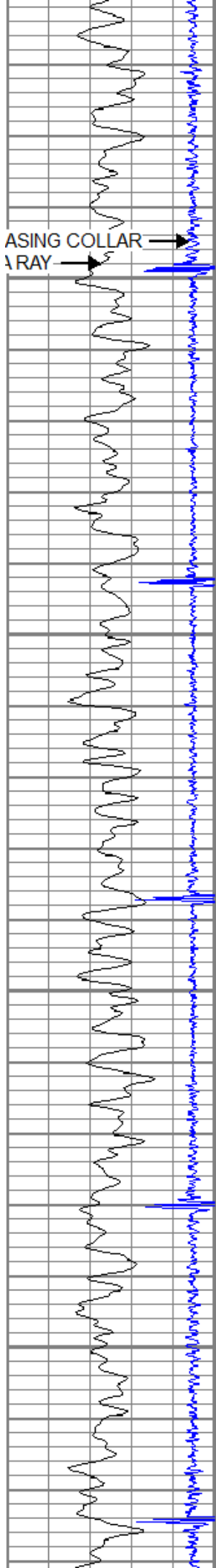


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 Presentation Format rst4inplo
 Dataset Creation Fri Aug 22 13:17:23 2014
 Charted by Depth in Feet scaled 1:240



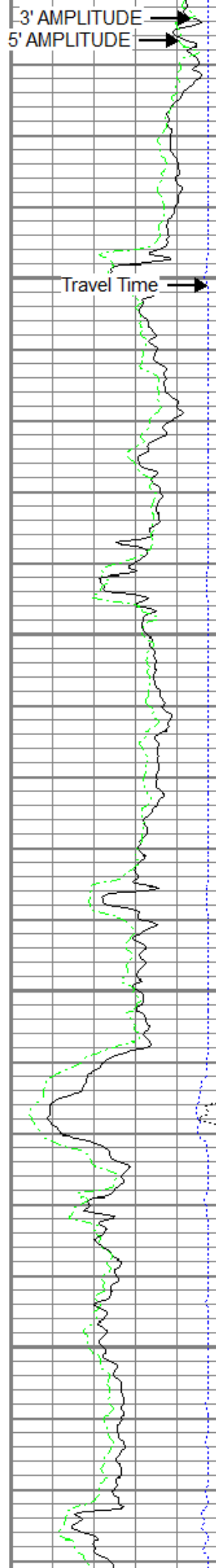
3' AMPLITUDE
5' AMPLITUDE

ASING COLLAR
ARRAY

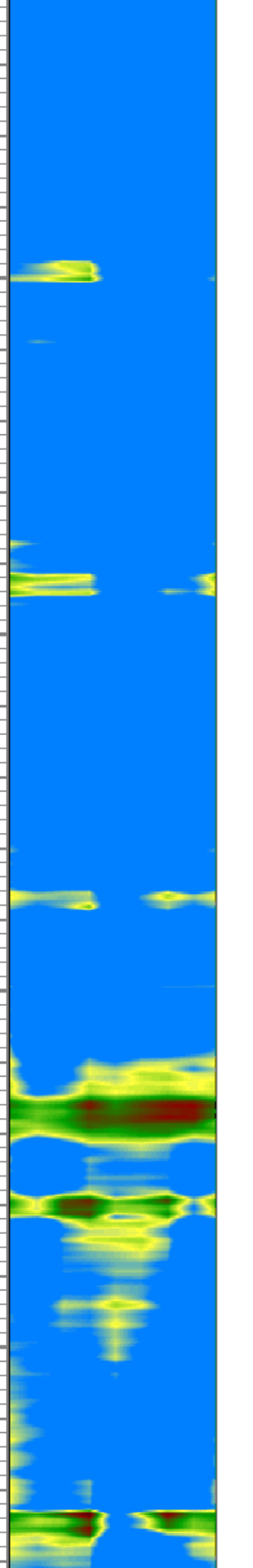
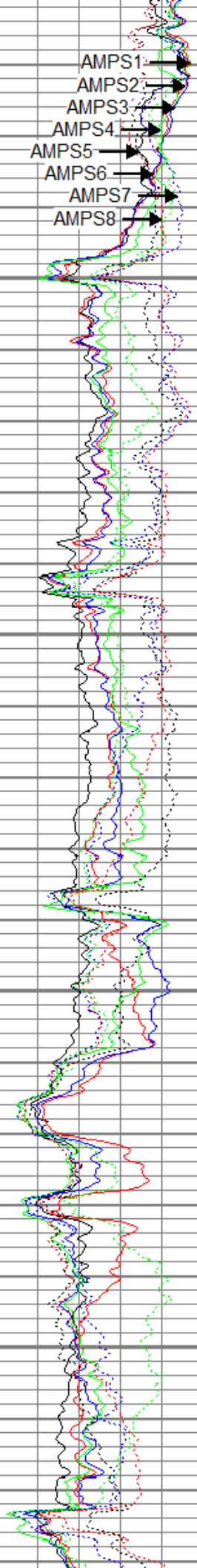


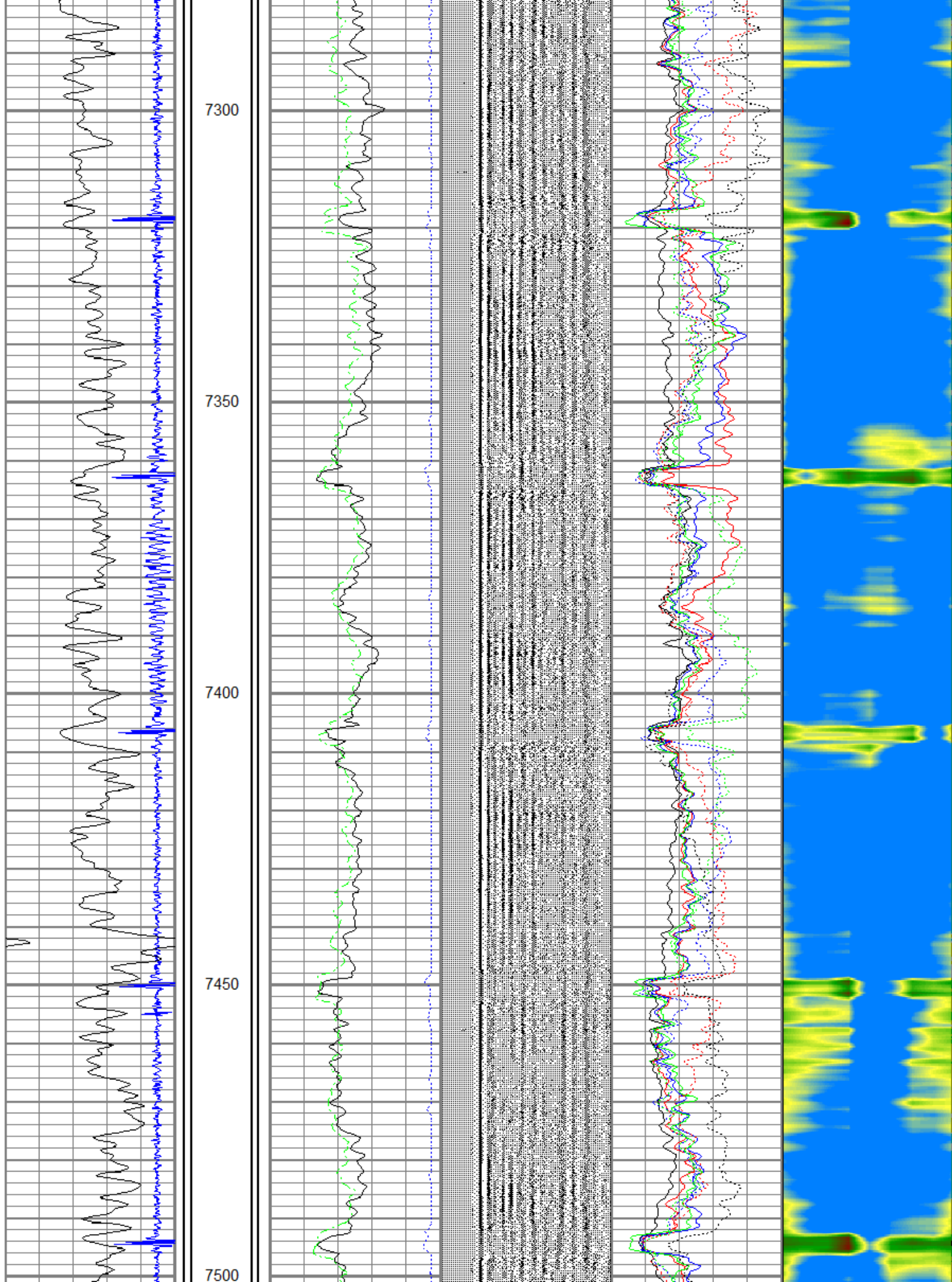
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7150
7200
7250

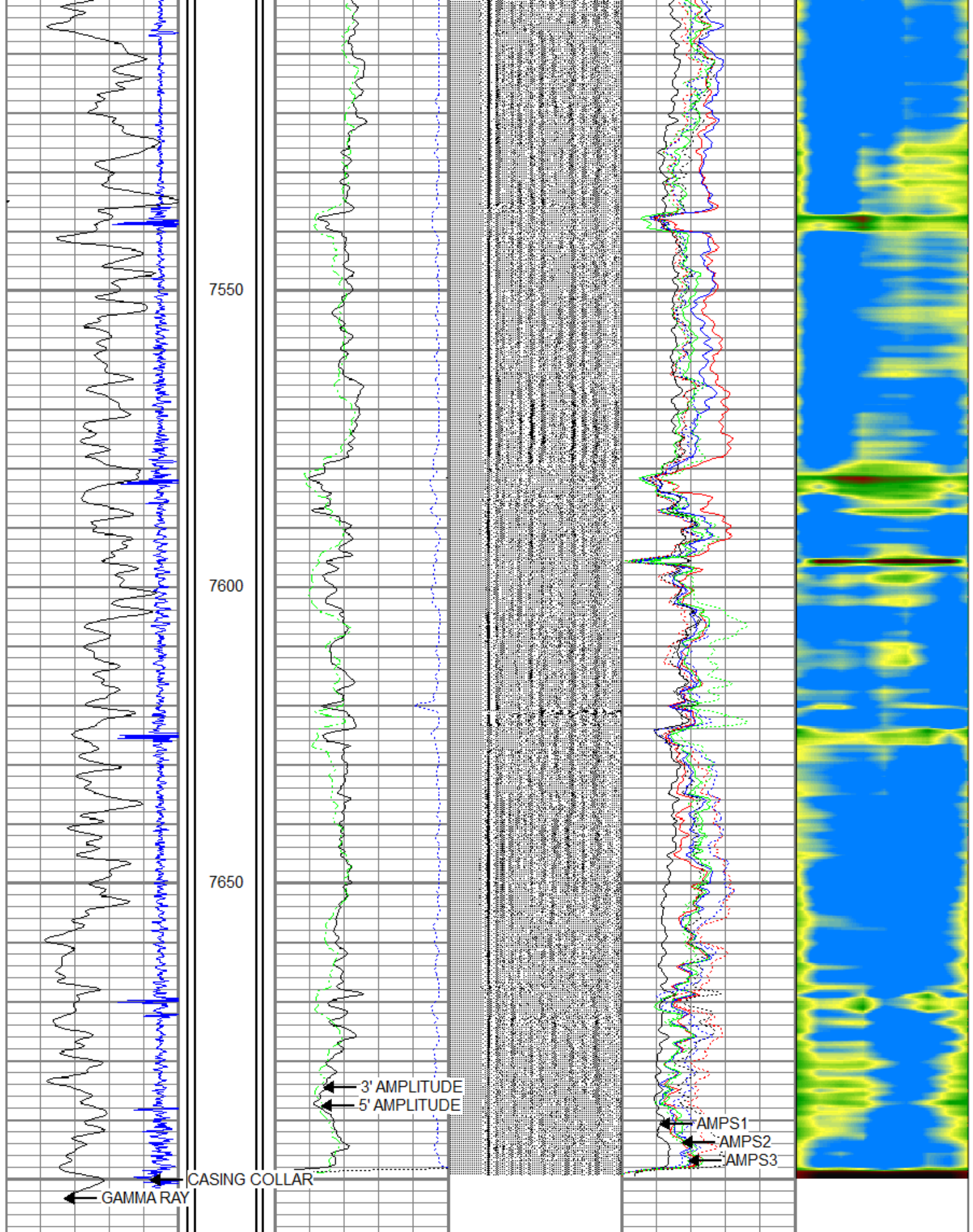
Travel Time



AMPS1
AMPS2
AMPS3
AMPS4
AMPS5
AMPS6
AMPS7
AMPS8







| | | | | | | | | | | | |
|------------------|---|--------------|-----|-----|------|---|-------|-----|---|------------|----|
| -9 CASING COLLAR | 1 | 3' AMPLITUDE | 200 | VDL | 1200 | 0 | AMPS1 | 120 | 1 | Cement Map | 8 |
| GAMMA RAY | | (mV) | 120 | | | 0 | AMPS2 | 120 | 1 | | 45 |
| | | | | | | 0 | AMPS3 | 120 | | | |

| | | | | | | | |
|--------|-----|--------------|-------------|-----|---|-------|-----|
| (GAPI) | 200 | 0 | AMP X5 (mV) | 24 | 0 | AMPS3 | 120 |
| | | 5' AMPLITUDE | | | 0 | AMPS4 | 120 |
| | | 0 | (mV) | 120 | 0 | AMPS5 | 120 |
| | | Travel Time | | | 0 | AMPS6 | 120 |
| | | 1200 | (usec) | 200 | 0 | AMPS7 | 120 |
| | | | | | 0 | AMPS8 | 120 |

Calibration Report

Database File wardsharpe24311hc.db
Dataset Pathname pass2.1
Dataset Creation Fri Aug 22 13:09:15 2014

Gamma Ray Calibration Report

Serial Number: 060719
Tool Model: Probe
Performed: Tue Oct 22 00:42:23 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 1.0000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 060631
Tool Model: Probe

Calibration Casing Diameter: 5.500 in
Calibration Depth: 131.492 ft

Master Calibration, performed Fri Aug 22 13:07:56 2014:

| | Raw (v) | | Calibrated (mv) | | Results | |
|-----|---------|-------|-----------------|--------|---------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| 3' | -0.006 | 0.390 | 0.450 | 71.000 | 177.973 | 1.557 |
| CAL | 0.357 | 0.355 | | | | |
| 5' | -0.076 | 0.376 | 0.450 | 71.000 | 156.089 | 12.299 |
| SUM | | | | | | |
| S1 | 0.000 | 0.614 | 0.450 | 91.000 | 147.525 | 0.449 |
| S2 | 0.000 | 0.819 | 0.450 | 91.000 | 110.509 | 0.449 |
| S3 | 0.000 | 0.682 | 0.450 | 91.000 | 132.782 | 0.449 |
| S4 | 0.000 | 0.566 | 0.450 | 91.000 | 159.932 | 0.449 |
| S5 | 0.000 | 0.385 | 0.450 | 91.000 | 234.906 | 0.448 |
| S6 | 0.000 | 0.728 | 0.450 | 91.000 | 124.388 | 0.449 |
| S7 | 0.000 | 0.395 | 0.450 | 91.000 | 228.989 | 0.448 |
| S8 | 0.000 | 0.740 | 0.450 | 91.000 | 122.410 | 0.449 |

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

| | Raw (v) | | Calibrated (v) | | Results | |
|-----|---------|-------|----------------|-------|---------|--------|
| | Zero | Cal | Zero | Cal | Gain | Offset |
| CAL | 0.000 | 0.000 | 0.357 | 0.355 | 1.000 | 0.000 |

Air Zero Calibration, performed Wed Dec 31 17:00:00 1969:

| | Raw (v) | Calibrated (v) | Results |
|--|---------|----------------|---------|
| | | | |

| | <u>Zero</u> | <u>Zero</u> | <u>Offset</u> |
|-----|-------------|-------------|---------------|
| 3' | 0.000 | 0.000 | 0.000 |
| 5' | 0.000 | 0.000 | 0.000 |
| SUM | | | |
| S1 | 0.000 | 0.000 | 0.000 |
| S2 | 0.000 | 0.000 | 0.000 |
| S3 | 0.000 | 0.000 | 0.000 |
| S4 | 0.000 | 0.000 | 0.000 |
| S5 | 0.000 | 0.000 | 0.000 |
| S6 | 0.000 | 0.000 | 0.000 |
| S7 | 0.000 | 0.000 | 0.000 |
| S8 | 0.000 | 0.000 | 0.000 |